

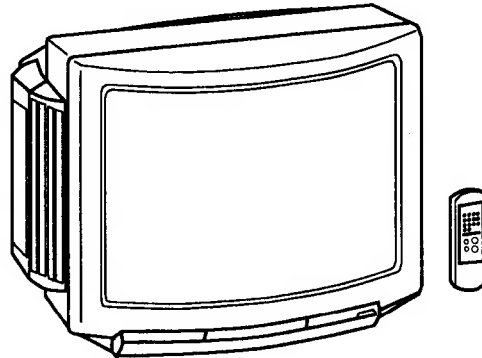
KV-A3411D

RM-816

SERVICE MANUAL

AEP Model

Chassis No. SCC-D93B-A



DE-2 CHASSIS

MODELS OF THE SAME SERIES

KV-A3411D

Specifications

KV-A3411D			
Television/colour system			
PAL B/G, SECAM (East), NTSC 3.58/4.43 (Video-in)			
Channel coverage			
See "Receiveable channels and channel display".			
Picture tube			
BLACK TRINITRON approx. 86 cm (34 inches) (approx. 80 cm picture measured diagonally) 110° deflection			
Terminals	REAR	21-pin Euro connector (CENELEC standard)	-inputs for audio and video signals -inputs for RGB -outputs of TV video and audio signals
		21-pin EURO connector	-inputs for audio and video signals -inputs for S-video -outputs for audio and video signals (selectable)
		Audio output (variable)	-phono jacks
		External speaker terminals: 21-pin DIN	
	FRONT	Video input - phono jack	
		Audio inputs (L, R) - phono jacks	
		S-Video input - 4-pin DIN	
		Headphone jack: stereo minijack	
Sound output			
30W + 30W (music power with 4Ω speakers)			
Power Consumption			
139 Wh			
Dimensions (W x H x D)			
approx. 880 x 664 x 580 mm			
Weight			
approx. 78 kg			
Supplied accessories			
RM-816 Remote Commander (1), IEC designation R6 batteries (2)			
Other features			
Digital comb filter			

Receiveable Channels and Channel Displays

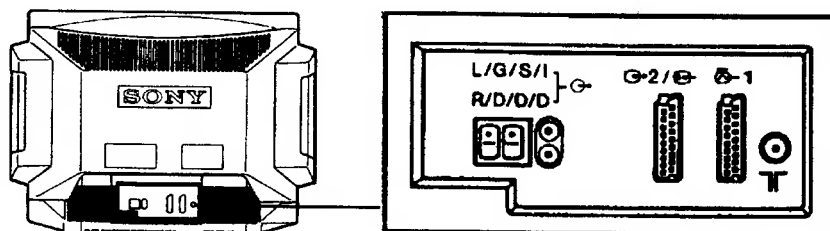
	Receiveable channels	Indication displayed on the screen
PALB/G	E2	C02
	3	C03
	4	C04
	·	·
	12	C12
	21	C21
	·	·
CABLE TV (1)	69	C69
	S1	S01
	2	S02
	·	·
	41	S41
CABLE TV (2)	S01	S42
	·	·
	S05	S46
	M1	S01
	·	·
	M10	S10
	U1	S11
	·	·
	U10	S20
	·	·
ITALIA	A	C13
	B	C14
	C	C15
	D	C16
	E	C17
	F	C18
	G	C19
	H	C20
	H1	C11
	H2	C12

TRINITRON® COLOR TV

SONY®



21 pin connector (1, 2)



Pin No	1	2	Signal	Signal level
1	○	○	Audio output B (right)	Standard level: 0.5Vrms Output impedance: less than 1kohm*
2	○	○	Audio input B (right)	Standard level: 0.5Vrms Input impedance: More than 10kohms*
3	○	○	Audio output A (left)	Standard level: 0.5Vrms Output impedance: less than 1kohm*
4	○	○	Ground (audio)	
5	○	○	Ground (blue)	
6	○	○	Audio input A (left)	Standard level: 0.5Vrms Input impedance: More than 10kohms*
7	○	●	Blue input	0.7V±3dB, 75ohms, positive
8	○	○	Function select (AV control)	High state (9.5—12V): Part mode Low state (0—2V): TV mode Input impedance: More than 10kohms Input capacitance: Less than 2nF
9	○	○	Ground (green)	
10	○	○	Open	
11	○	●	Green	Green signal: 0.7V±3dB, 75ohms, positive
12	○	○	Open	
13	○	○	Ground (red)	
14	○	○	Ground (blanking)	
15	○	—	Red input	0.7V±3dB, 75ohms, positive
	—	○	(S signal) chroma input	0.3V±3dB, 75ohms, positive
16	○	●	Blanking input (Ys signal)	High state (1—3V) Low state (0—0.4V) Input impedance: 75ohms
17	○	○	Ground (video output)	
18	○	○	Ground (video input)	
19	○	○	Video output	1V±3dB, 75ohms, positive Sync: 0.3V(—3, +10dB)
20	○	—	Video input	1V±3dB, 75ohms, positive Sync: 0.3V(—3, +10dB)
	—	○	Video Input/Y (S signal)	1V±3dB, 75ohms, positive Sync: 0.3V(—3, +10dB)
21	○	○	Common ground (plug, shield)	

○ connected

● unconnected (open)

* At 20 Hz—20kHz

4 pin connector (3)

Pin No	Signal	Signal level
1	Ground	
2	Ground	
3	Y (S signal) input	1V±3dB 75ohm, positive Sync 0.3V ₊₁₀ ⁻³ dB
4	C (S signal) input	0.3V±3dB 75ohm positive

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SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY SHADING AND MARK Δ ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

SECTION 1 GENERAL

1-1. INTRODUCTION AND PREPARATION

Thank you for purchasing this TV from Sony. You now own a high-quality TV with many special features.

Special Features of This TV

High quality picture

- Black Trinitron picture tube provides a picture with high resolution and high contrast.
- Digital comb filter provides a superior picture quality.

Wide capability of colour system and tuning functions

- Colour systems: PAL, SECAM (East) and VIDEO-IN NTSC 4.43 and 3.58.
- 60 programme positions for presetting VHF, UHF, and cable channels.
- Frequency synthesizer tuning system enables direct channel presetting.

Full Spectrum Sound System

- 2 x 30 W music power.

Other special features

- Teletext decoder.
- Audio/Video input and S-video terminals at the front of the TV.
- Two 21-pin connectors (second 21-pin with S-video input) for the direct connection of video equipment.

Safety Information

All TVs operate on extremely high voltages. To prevent fire or electric shock please follow the safety procedures below. For your protection, refer all servicing to qualified personnel only.

For general safety:

- Do not expose the TV to rain or moisture.
- Do not open the rear cover.

For safe installation:

- Do not block the ventilation openings.
- Do not install the TV in hot, humid, or excessively dusty places.
- Do not install the TV where it may be exposed to mechanical vibrations.

For safe operations:

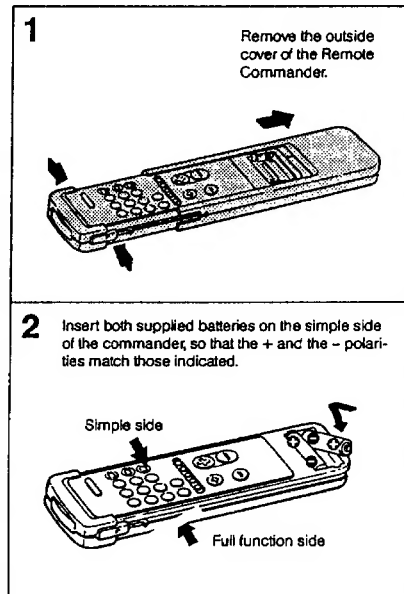
- Do not operate the TV on anything but 220-240 V AC.
- Do not operate the TV if any liquid or solid object falls on it – have it checked immediately.
- Do not keep the set plugged in if you are not going to use it for several days.
- Do not pull on the power cord to disconnect the TV. Pull it out by the plug.

How to connect the aerial to this TV

Connect your aerial (using 75-ohm coaxial cable and IEC connectors, both not supplied) to the "I" socket on the rear of the TV.

How to insert batteries into the Remote Commander




You have to insert the two supplied R6 batteries into the Remote Commander before you can use it to operate the TV.






1-2. SWITCHING ON/OFF

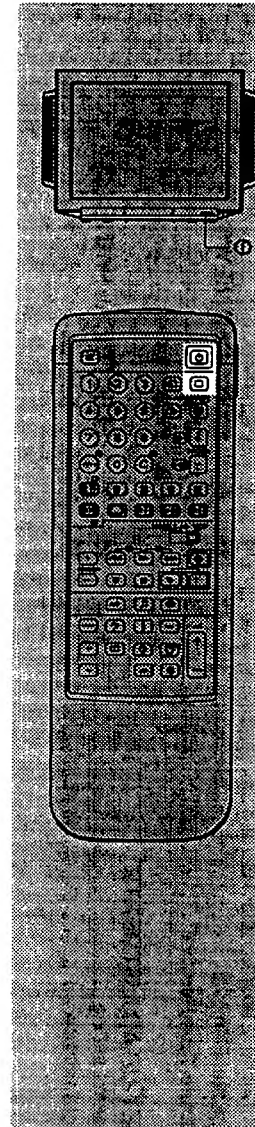
After you have completed the basic preparation your TV is ready to be connected to the mains power supply (220/240 V AC, 50 Hz).

How to turn the TV on

Action	Result
1 Press  on the TV 	The TV will turn on. Note: If the screen remains blank, the TV may be in the standby mode. Press  to switch it on.

How to turn the TV off

A Temporarily	
Press  to enter standby mode.	The TV will be in standby. To return to the TV mode press  .
B Completely	
Press  on the TV.	The TV will turn off.



1-3. PRESETTING

After you have installed this TV you need to preset TV channels.

TV stations broadcast their channels at certain frequencies. You must preset these channels to programme numbers on this TV before you can watch the TV programmes.

There are 60 spaces for storing these channels.

Slide open the full function side of the remote commander to reveal preset buttons.

If you are unfamiliar with the channel numbers of the stations you wish to preset, use "How to preset channels automatically". If you are familiar with the channel numbers refer to "How to preset TV channels directly".

How to preset channels automatically

Action	Result
1 Press \rightarrow to enter the preset mode. 	The programme number will start flashing.
2 Press PROG + or - or the number buttons to select the programme number to which you want to preset channels. 1 2 3 4 5 6 7 8 9 0	The programme number changes.
3 Press \leftarrow or \rightarrow once to search forward or backward for channels. 	When a channel is tuned in, the search will stop. Note: If you want to skip a channel, press \leftarrow or \rightarrow .
4 Press \diamond if you want to store the channel which is tuned in. Press \rightarrow to exit preset mode without storing. 	The channel is now stored and you have returned to TV mode.
5 Repeat steps 1 to 4 to store the other channels.	

Note: These buttons should be used in preset mode only.

How to preset channels directly

Action	Result
1 Press \rightarrow to enter the preset mode. 	The programme number will start flashing.
2 Press PROG + or - or the number buttons to select the programme number on which you want to preset a channel. 1 2 3 4 5 6 7 8 9 0 Note: To select a double-digit number, use the \leftarrow button. For example, if you want to choose 23, press \leftarrow , 2, and then 3.	The programme number changes.
3 Press C. If you want to select a cable channel, press C twice. 	The indication "C--" ("S--" for a cable channel) starts flashing on the display.
4 Select the channel number with two digits (e.g. 04) by pressing the number buttons. 1 2 3 4 5 6 7 8 9 0 Note: Press the second number within 5 seconds after the first one, otherwise the operation will be cancelled.	The channel number changes. Note: If you have made a mistake the letter "X" will appear. Repeat step 4 again.
5 Press \diamond to store the channel which is tuned in. Press \rightarrow to exit the preset mode without storing. 	The channel is now stored and you have returned to TV mode.
Repeat steps 1 to 5 to store the other channels.	

How to Name a Station

You can use up to five characters to "name" a channel or station (i.e. BBC 1).

Action	Result
1 Select a programme number you want to name by pressing the PROGR +/- or the number buttons.	The selected programme number will appear.
2 Press → .	The programme number starts flashing.
3 Press C .	The first column of the station name indication will start flashing.
4 Press + or - to select a letter in the alphabet, a number, or a blank space.	The letters of the alphabet, numbers and the space (" ") will appear sequentially.
5 Press C .	The first character is now set and the second column will start flashing.
6 Repeat steps 4 and 5 to set each letter.	
7 Press ◇ .	The channel is now stored and you have returned to TV mode.

How to tune in a channel temporarily

You can tune a channel in temporarily, if it has not been preset.

Action	Result
1 Press C . For cable channels, press C twice.	The indication "C" ("S" for cable channels) appears on the screen.
2 Select the channel number with two digits by pressing the number buttons (e.g. for channel 4, first press 0, then 4).	The channel is received, but it is not stored to any programme number.

How to Skip Programmes

Using the **PROGR +/-** buttons you can skip unused programme channel numbers. However, the skipped numbers may still be called up using the number buttons.

Action	Result
1 Press → to enter the preset mode.	The programme number will start flashing.
2 Select the programme number that you want to skip by pressing PROGR +/- or the number buttons.	The programme number changes.
3 Press Coo .	The lowest channel number appears under the programme number.
4 Press ◇ .	The channel is now stored and you have returned to TV mode.

Repeat steps 1 to 4 to skip other programme numbers.

How to Fine Tune Manually

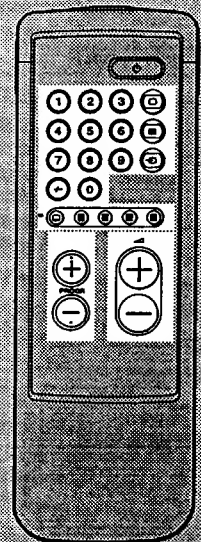
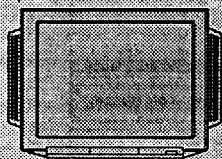
If the picture is distorted, you can fine tune the channel manually.

Action	Result
Press ↔ + or - repeatedly until the picture looks normal.	The indication ← F → appears on the screen.
Press → to enter the preset mode.	The programme number starts flashing.
Press ◇ .	The fine tuning is stored.

Note: The automatic fine tuning will function again when you preset the channel once more.

1-4. BASIC TV OPERATION

Note: Press [L] on door to open.



This section introduces you to the basic control functions which are available on the simple side of the remote commander.

How to Select Programmes

Before you can select programmes make sure that you have preset channels.

Action	Result
Press PROGR +/- or the number buttons. To select a double-digit number, use the +/- button. For example, if you want to choose 23, press +/-, 2, and then 3.	 The selected programme is displayed.

How to Adjust the Volume

Action	Result
Press + or -.	 The volume markers will appear.

How to Use Additional Functions

How to operate with the buttons on the TV

You can also select programmes and adjust the volume using the and +/- buttons on the front of the TV.
For operation, first press the button repeatedly so that the P (for programme), (for volume) or (for input) indication appears on the screen, and then adjust with the +/- buttons.

How to view the teletext

Press . To return to the TV mode, press .

How to view the video input picture

Press . To return to the TV mode, press . For further details, refer to page 36.

1-5. ADVANCED TV OPERATION

This section shows you how to use convenient features and how to adjust the picture and sound to your taste.
Use the full-function side of the Remote Commander.

How to use on-screen display and special sound features













You can enjoy the following convenient features:

How to	Action	To resume normal picture sound
Display on-screen indications	Press .	Indications disappear after some seconds.
Display programme number	Press twice.	Press twice again.
Mute the sound	Press .	Press again.
Select a language in bilingual programmes	Press A/B. The selected mode of the A-CD-B indicator on the TV lights up.	Press A/B again.
Set the sound to music listening position.	Press .	Press again.
Use the space sound (special acoustic effect)	Press .	Press again.
Request the time	Press .	Press again.

How to adjust the picture and sound

Although the picture and sound have been adjusted at the factory, you might want to adjust them to your own taste. To do this, please follow the steps.

For picture adjustment

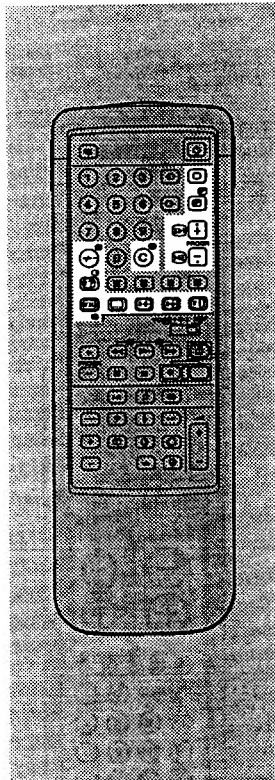
To Adjust:	Press:	Then:	Result (+ ↔ -):
Picture:			
Colour intensity		<div> </div>	More ↔ Less
Picture Contrast			More ↔ Less
Brightness			Bright ↔ Dark
Hue (for NTSC only)			Reddish ↔ Greenish
Picture Sharpness			Sharp ↔ Soft
Sound:			
Bass		<div> </div>	More ↔ Less
Treble			More ↔ Less
Balance			More Right ↔ More Left

To reset the picture and sound to factory set levels press .

On the set:

Press +/- buttons simultaneously.

1-6. TELETEXT OPERATION



TV stations broadcast teletext programmes via the TV channels. To receive teletext programmes, use the buttons indicated in green on the full side of the Remote Commander. With the simple side of the Remote Commander, only the basic operation is possible.

How to View the Teletext

Action	Result
1 Select the channel which carries the teletext service you wish to view.	The channel changes on the screen.
2 Press . Note on the TOP-TEXT TOP-TEXT program is available only from some German stations. For information about the TOP-TEXT, please refer to the German language of this manual.	First, the "TOP-TEXT?" indication appears, then the teletext will appear. If the teletext signal is not broadcast, then P100 is displayed.
3 Input three digits for the page number using the number buttons. Note: If you make a mistake, type in any three digits, then re-enter the correct page number.	The numbers are entered on the screen. The requested page will appear in a few seconds.
To return to the TV mode: Press . To change the teletext channels: First press to return to the TV mode, then repeat steps 1 to 3.	

Note
If the signal of the TV channel is weak, teletext errors may often occur.

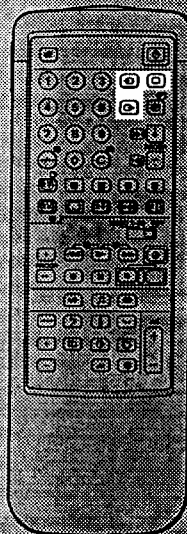
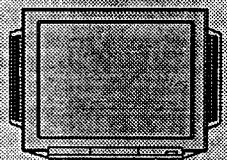
How to Use the Advanced Features of Teletext

How to	Action	Result (On-screen display)
Request the index page.	Press (INDEX).	The index page appears.
Request the subtitle page (p888).	Press .	The subtitle page is displayed (p888).
Access the next or preceding page	Press (PAGE +) or (PAGE -).	The next or preceding page appears.

How to	Action	Result
Superimpose the teletext display on the TV programme.	Press once if you are in text mode, or press twice if in TV mode. To return to the normal teletext display press again.	The teletext displays are superimposed on the TV programme.
Prevent a teletext page from being updated or changed.	Press (HOLD). To resume normal teletext reception, press (TEXT/MDX).	The HOLD symbol () appears on the screen and the chosen sub-page is held until you cancel.
Enlarge the teletext display.	Press once to enlarge the upper half. Press twice to enlarge the lower half. Press again to restore the normal display.	The upper half is enlarged.
Reveal concealed information (e.g. answers to a quiz).	Press (REVEAL). Press again to conceal the information.	The information is revealed.
Watch the TV programme while waiting for a requested page to be displayed.	1. Request a new page	The numbers are entered.
	2. Press (TEXT CL).	The TV program is displayed, and the requested page number and other teletext data appear at the top of the screen.
	3. When the requested page has been captured, the page number remains and the other data disappears.	P201
	4. Press to view this page.	The requested page is displayed.
Have a requested page displayed at a pre-determined time.	1. Request a desired page.	The requested page is displayed.
	2. Press (TP ON).	"T*****" appears at the bottom or "0001" at the top of the screen.
	3. Enter the time you want to have the page displayed with four digits using the number buttons. (For example, enter 0730 for 7:30 AM.)	The time is entered on the screen.
To watch the TV programme until the requested time Press (TEXT CL). At the requested time, the page number will be displayed at the top of the screen. To view this page, press . To cancel the request Display the teletext page, then press (TP OFF).		

Some of the features may not be available depending on the Teletext service.

1-7. OPTIONAL CONNECTIONS/OPERATIONS



How to view the video input picture

You can view the picture of video equipment connected to the input terminals by selecting the input mode.

Operation

Symbol	Result
Press repeatedly to select the desired input.	Symbol for the selected input appears. (See the table below.)
To return to the TV mode, press the button.	

Input modes

Symbol	Result
	Audio/Video input through the -1 connector.
	RGB input through the .
	Audio/Video input through the .
	S video input (from a VTR equipped with an S video output) through the .
	Audio/Video input through and jacks on the front.
	S video input through the connectors on the front (4-pin connector).

You can also select the input mode using the button on the TV. In this case, first select , and then press +/- buttons to select the input.

How to select the Output

The connector outputs four kinds of audio/video signals. You have to select one of them as follows.

Operation

Action	Result
Press repeatedly to select the desired input.	Symbol for the selected output signals appears. (See the table below.)


Output modes

Symbol	Output from
	The audio/video signal from the .
	The audio/video signal from the .
	The audio/video signal from the connectors.
TV	The audio/video signal from the .

1-8. ADDITIONAL REMOTE COMMANDER OPERATION

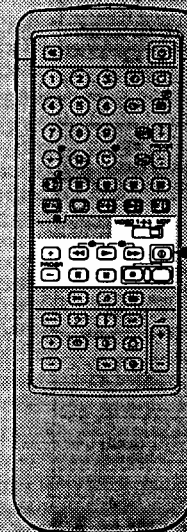
How to Control Other Sony Video Equipment

By switching the VIDEO 1/2/3 MDP selector, you can operate most Sony video equipment (Beta VTR, 8 mm VTR, VHS VTR, and video disc player)

1	Set VIDEO 1/2/3 MDP selector according to the desired video equipment. VIDEO 1: Beta or ED Beta VTR VIDEO 2: 8 mm VTR VIDEO 3: VHS VTR MDP: Video disc player	
2	Use the buttons in the indicated area to operate video equipment.	
Note: When you use the ● button, be sure to press this button and the one on the right simultaneously.		

Notes:

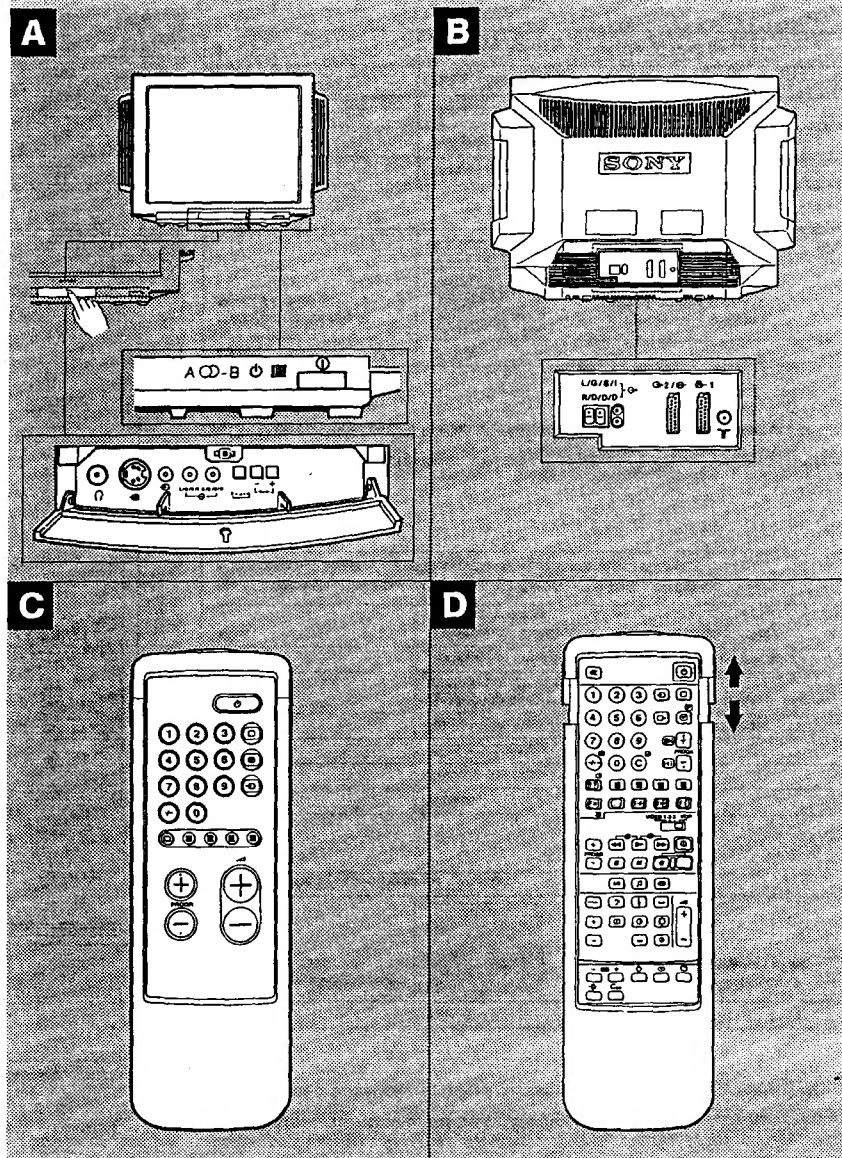
- If your equipment is furnished with COMMAND MODE selector, set the selector to the same position as the VIDEO 1/2/3 MDP selector on the supplied Remote Commander.
- If the equipment does not have a certain function, the corresponding button on the Remote Commander will not work.



Buttons to operate other Sony Video equipment

1-9. ADDITIONAL INFORMATION

Parts Identification



This section briefly describes the buttons and controls on the TV set and on the Remote Commander. For more information, refer to the pages given next to each description.

A TV set - Front	
Sign	Name
⏻	Main power switch
⏻	Standby indicator
A-D-B	Bilingual A/B Indicators
⏻	Headphones jack (stereo minijack)
⏻	Input jacks (S-video/Video/audio)
⏻	Function selector (Programme/volume/input)
⏻	Adjustment buttons for function selector

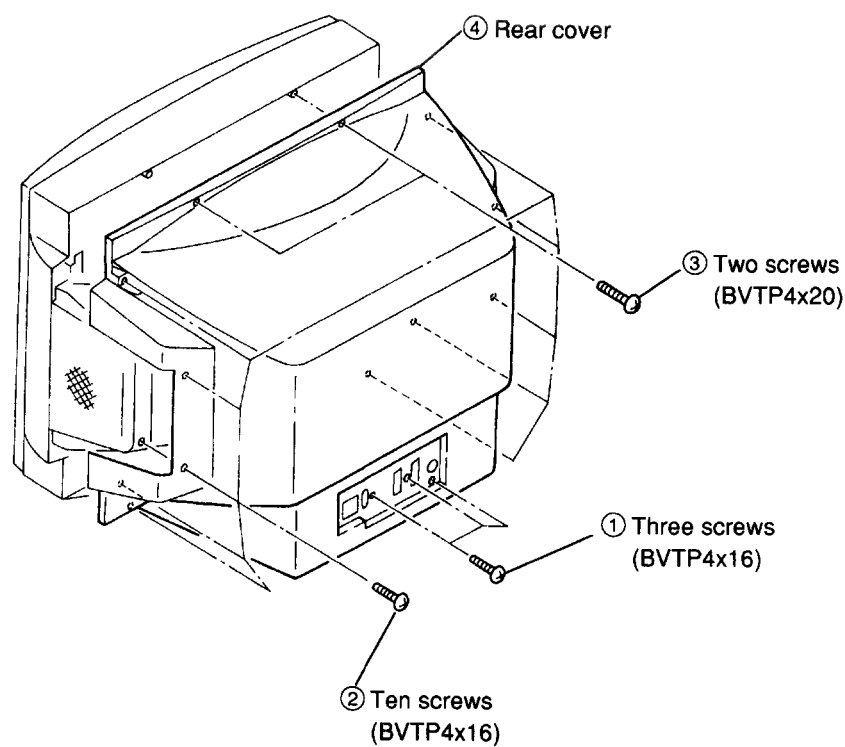
B TV set - Rear	
Sign	Name
LGSI RDD	Loudspeaker terminals (top: left, bottom: right)
⏻ 2/⏻	21-pin Euro-AV connector S-video/ video input, TV/Video output
⏻ 1	21-pin Euro-AV connector (RGB/Video input, TV/output)
⏻	Audio output jacks (phono jacks)
T	Aerial terminal (IEC type)

C Remote Commander - simple side	
Sign	Name
⏻	Input mode selector
⏻	Teletext button
⏻	TOP-Text-buttons
⏻	TV mode selector
⏻	Standby button
1, 2, 3, 4, 5, 6, 7, 8, 9 and 0	Number buttons
- / - -	Double-digit entering button
Δ + / -	Volume control button
PROGR + / -	Programme selector

D Remote Commander - full function side	
Sign	Name
⏻	Mute on/off button
⏻	Standby button
1, 2, 3, 4, 5, 6, 7, 8, 9 and 0	Number buttons
⏻	Input mode selector
⏻	TV power on/TV mode selector button
⏻	Output mode selector
⏻	Teletext button
⏻	Music button
A / B	Language selector in bilingual programme
- / - -	Double-digit entering button
C	Direct channel entering button
⏻	Space sound button
⏻	Request time display
⏻	Teletext operation buttons
⏻	TOP-Text-buttons
⏻	On-screen display button
⏻	Picture and sound adjustment reset button
Δ + / -	Volume control
PROGR + / -	Programme selector
⏻	Picture and sound controls
VIDEO 1/2/3, MDP	Video equipment selector
⏻	Video equipment operation buttons
C00	Programme number clear button
⏻	Channel preset button
- ⏻ +	Tuning buttons
⏻	Channel store button
⏻	Station label button

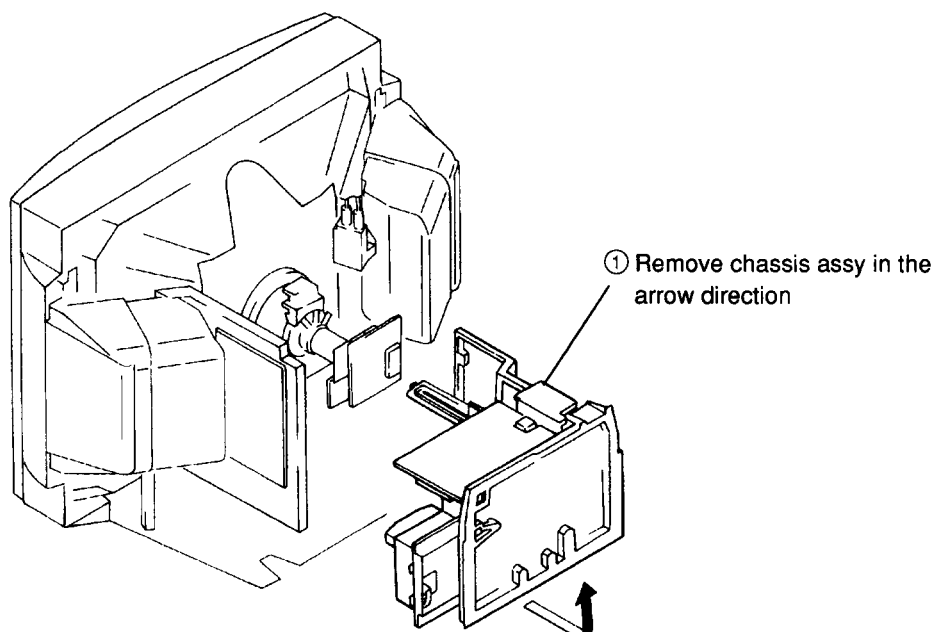
SECTION 2 DISASSEMBLY

2-1. REAR COVER REMOVAL

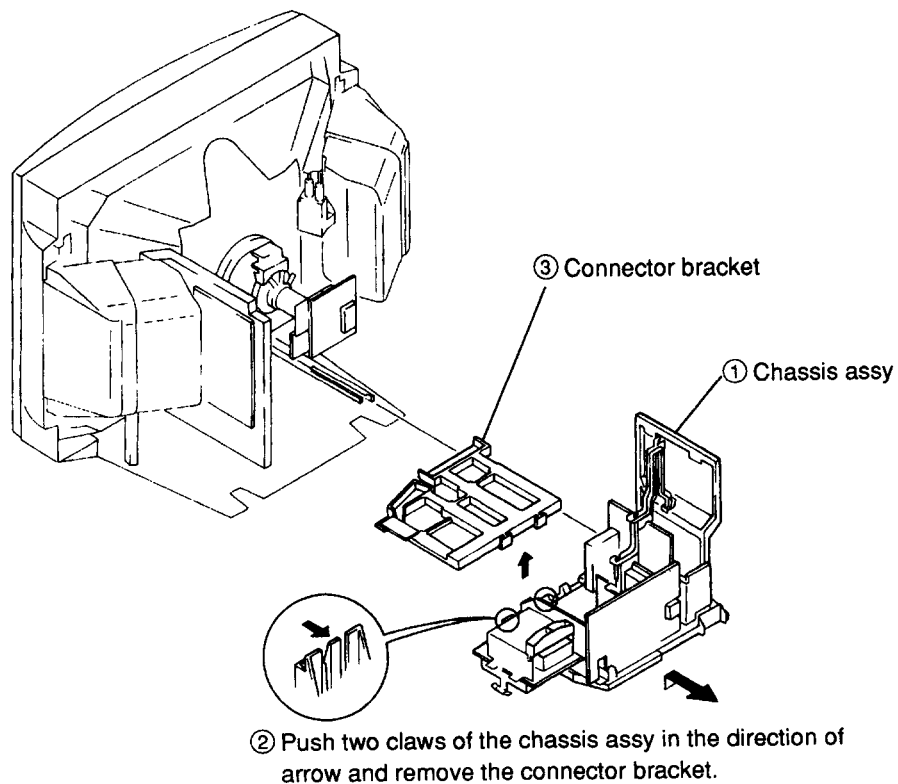


2-2. SERVICE POSITION

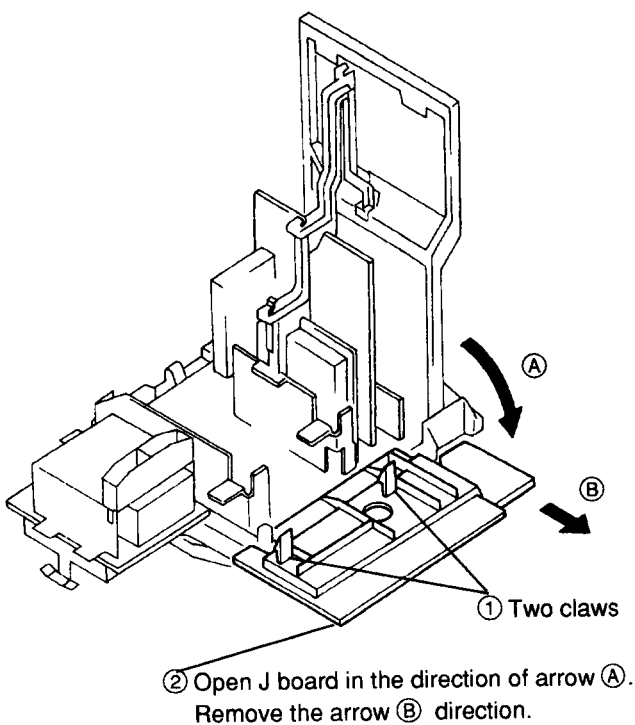
- * Remove the connector bracket and then perform the following servicing.
(refer to 2-3. CHASSIS ASSY REMOVAL.)



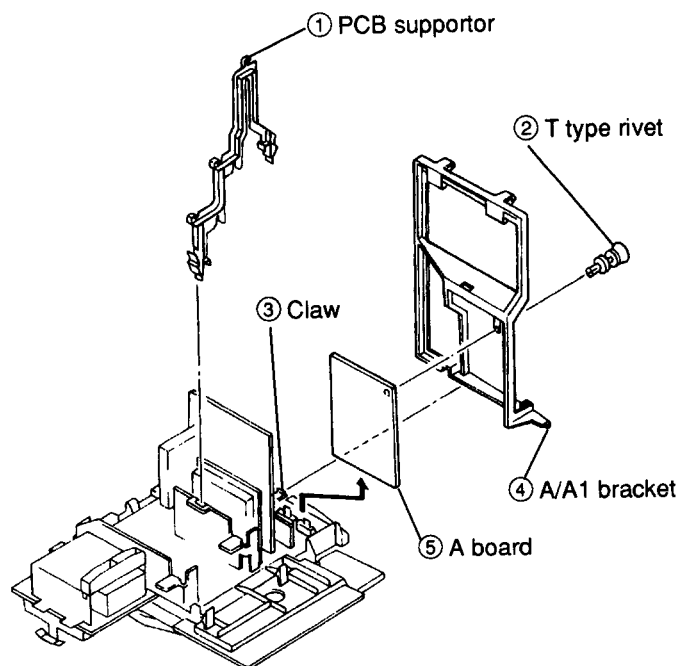
2-3. CHASSIS ASSY REMOVAL



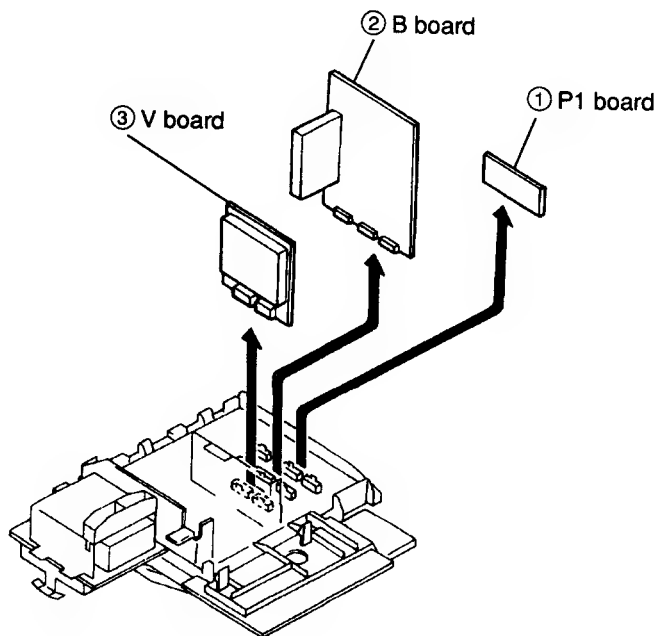
2-4. J BOARD REMOVAL



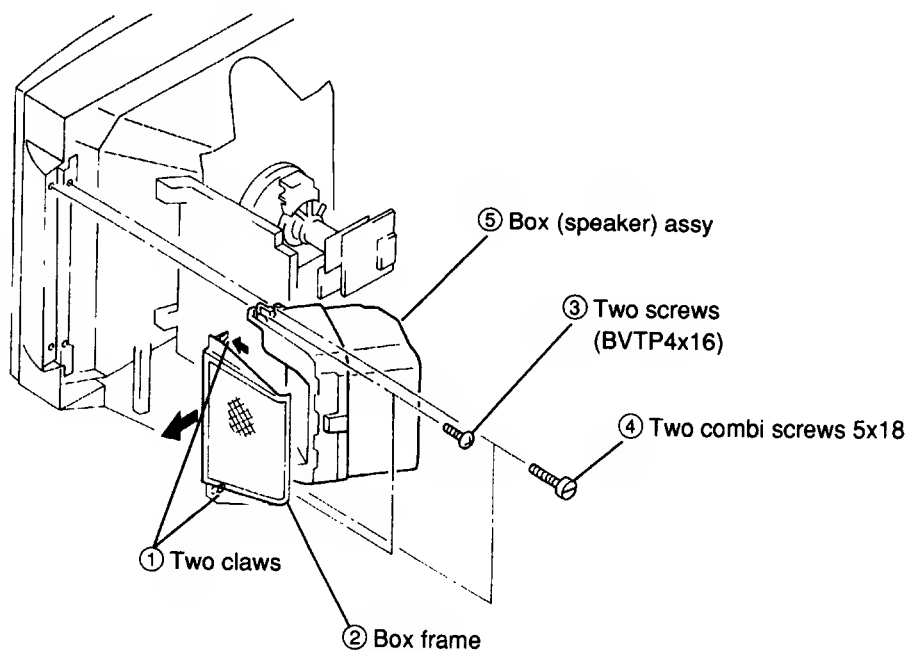
2-5. A BOARD REMOVAL



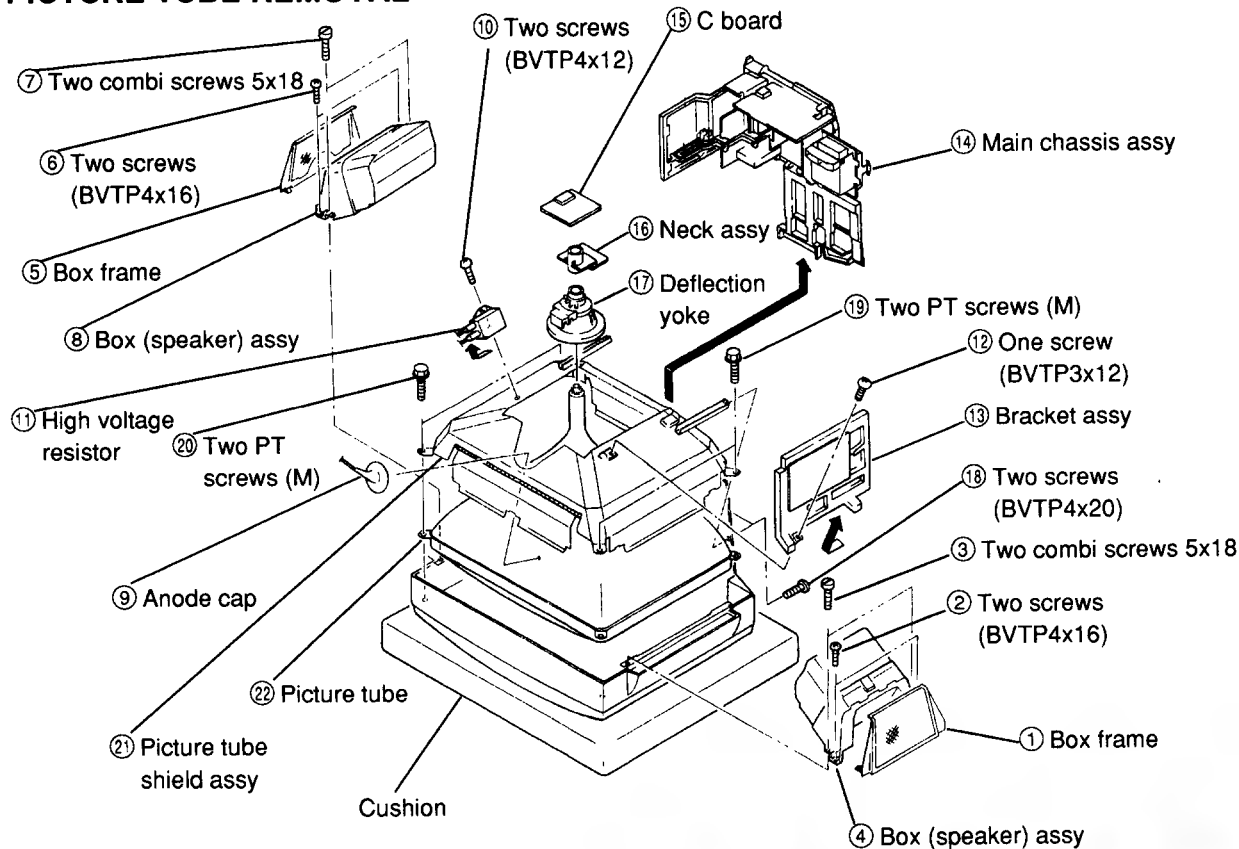
2-6. P1, B AND V BOARDS REMOVAL



2-7. SPEAKER REMOVAL

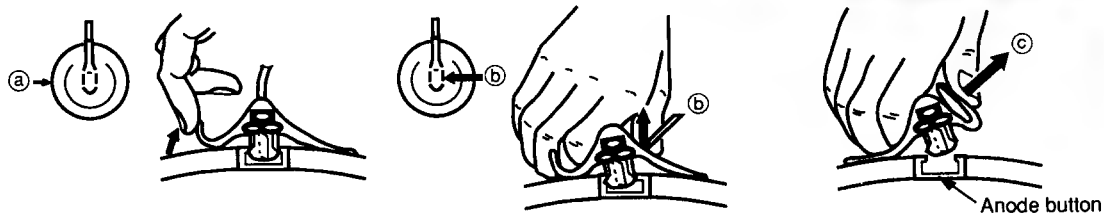


2-8. PICTURE TUBE REMOVAL



- **REMOVAL OF ANODE-CAP**
- **METHOD OF REMOVAL**

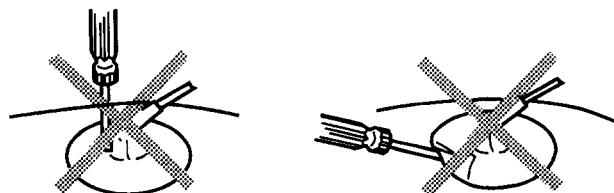
CAUTION
SHORT CIRCUIT THE ANODE OF THE PICTURE TUBE AND THE ANODE CAP TO THE METAL CHASSIS, CRT SHIELD, OR CARBON PAINTED ON THE CRT. AFTER REMOVING THE ANODE



- ① Lift up one side of the rubber cap in the direction indicated by arrow (a).
- ② Using a thumb, pull the rubber cap up firmly in the direction indicated by arrow (b).
- ③ When one side of the rubber cap is separated from the anode button, the anode-cap can be removed by turning up the rubber cap and pulling up it in the direction of arrow (c).

• **HOW TO HANDLE AN ANODE-CAP**

- ① Don't damage the surface of the anode-cap with anything sharp!
- ② In order not to damage the inside of the anode-cap, don't press hard on the rubber!
An item called a shatter-hook terminal is built into the rubber.



SECTION 3

SET-UP ADJUSTMENTS

- When complete re-adjustment is necessary or a new picture tube is installed, carry out the following adjustments.
- Unless there are specific instructions to the contrary, carry out these adjustments with the rated power supply.
- Unless there are specific instruction to the contrary, set the controls and switches as follows:

● CONTRAST 80%

(or Remote control normal)

⚙ BRIGHTNESS .50%

- Carry out the following adjustments in this order:

1. Beam landing
2. Convergence
3. Focus
4. White balance

Note: Test equipment required

1. Colour bar/pattern generator
2. De-gausser
3. d.c. power supply
4. Digital multimeter
5. Oscilloscope

Preparation:

- In order to reduce the influence of geomagnetism on the set's picture tube, face it east or west.
- Switch on the set's power and de-gauss the tube with the de-gausser.

3-1. BEAM LANDING

1. Input a white signal from the pattern generator.
Contrast } normal
Brightness }
2. Position neck assembly as shown in Fig 3-2.
3. Set the pattern generator raster signal to red.
4. Move the deflection yoke to the rear and adjust the purity control so that the centre of the screen is red and either side are equal areas of blue and green.
(see Figures 3-1 through 3-3.)
5. Move the deflection yoke forward and adjust so that the entire screen is red. (See Figure 3-1.)
6. Switch the raster signal to blue and then to green to verify the setting.
7. Once the position of the deflection yoke has been decided, lock it in position with the screws.

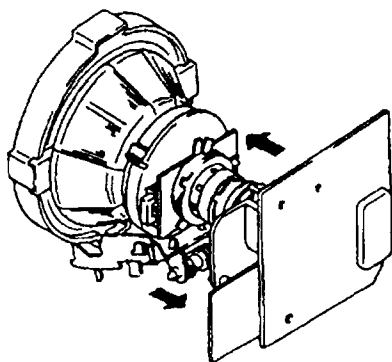


Fig. 3-1

Fig. 3-2

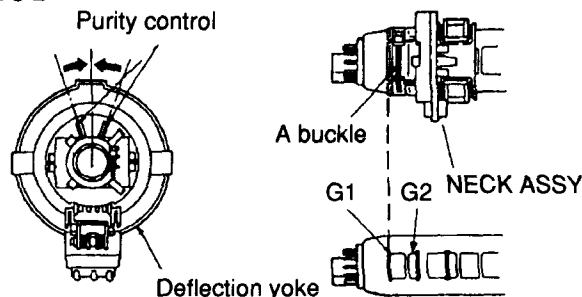


Fig. 3-3

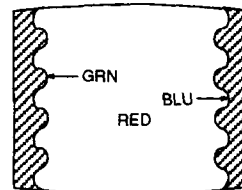
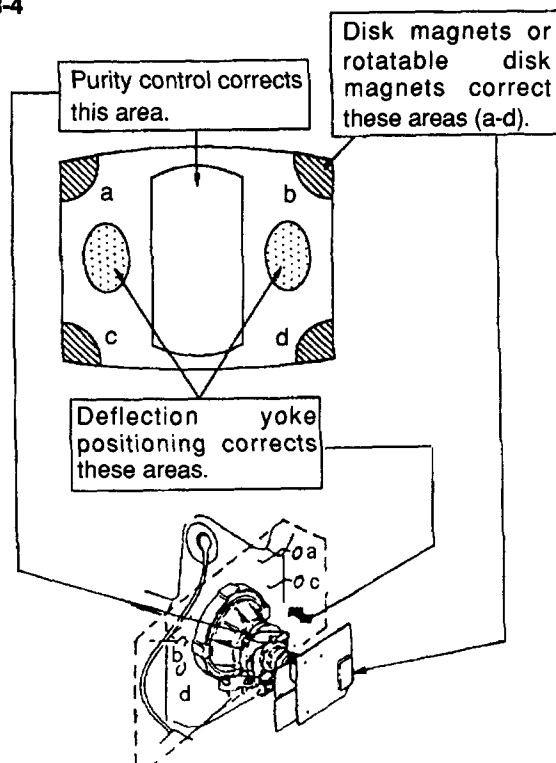


Fig. 3-4

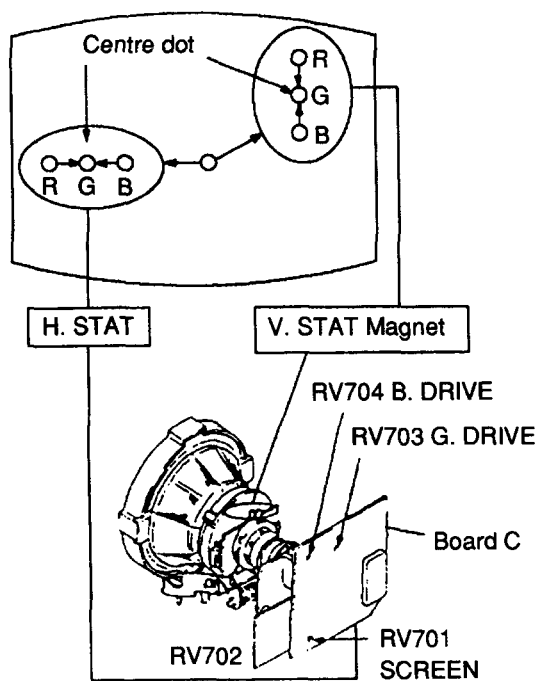


3-2. CONVERGENCE

Preparation:

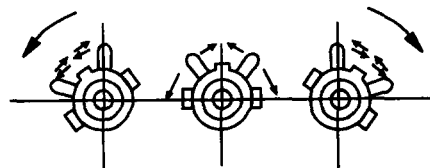
- Before starting this adjustment adjust the focus, horizontal size and vertical size.
- Set the BRIGHTNESS to minimum.
- Input a dot pattern from the Pattern generator.

(1) Horizontal and vertical static convergence

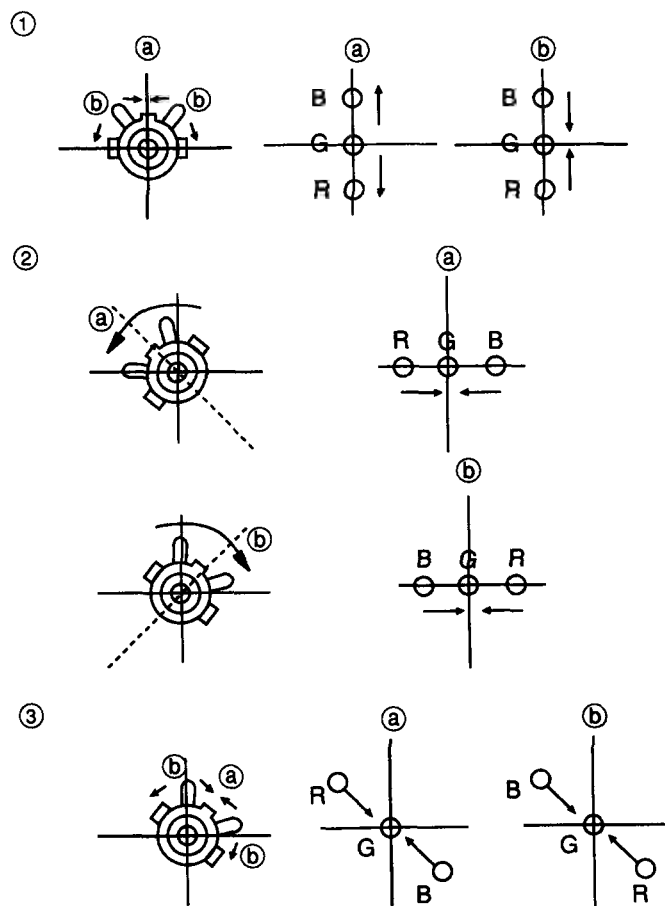


1. **HORIZONTAL** movement - Adjust the H.STAT control so that, at the centre of the screen, the red, green, and blue spots are on top of each other.
2. **VERTICAL** movement - Adjust the V.STAT magnet so that, at the centre of the screen, the red, green, and blue spots are on top of each other.
3. If the H.STAT variable resistor cannot bring the red, green, and blue spots together at the centre of the screen, adjust the horizontal convergence with the H.STAT variable resistor and the V. STAT magnet as described below.
(In this case, the H.STAT variable resistor and the V.STAT magnet affect each other)

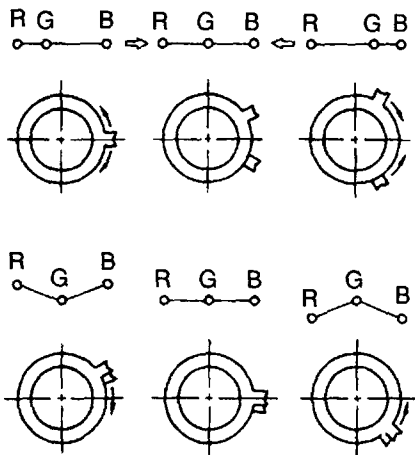
- Tilt the V.STAT magnet and adjust the static convergence by opening or closing the V.STAT



4. If the V.STAT magnet is moved in the direction of the (a) and (b) arrows, the red, green, and blue spots move as shown below:

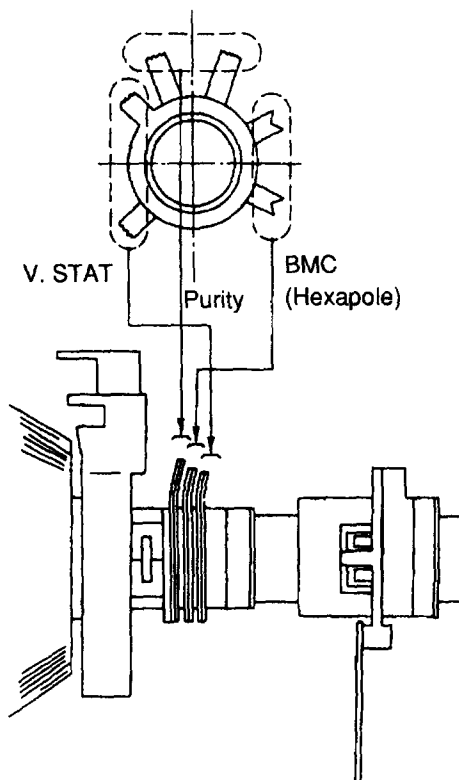


• Operation of BMC (Hexapole) Magnet



- The respective dot positions caused by moving each magnet interact. Therefore be sure to perform this adjustment while watching the screen.

Use the H.STAT VR to adjust the red, green, and blue dots so that they coincide at the centre of the screen (by moving the dots in the horizontal direction).



(2) Dynamic Convergence Adjustment

1. Adjust the Y.CROSS (RV1705) and Y.BOW (RV1702) so that RED and BLUE, as shown in Fig. 3-6, become $a=b=c$.

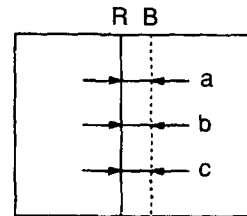


Fig. 3-6

2. Match the horizontal convergence at the centre of the screen with H STAT VR.
3. Adjust the CORNER BOW (RV1703), so that RED and BLUE, as shown in Fig. 3-7, become $a=b=c$ and $d=c=f$.

Note: At this point, if the proper relationship between $a=c$ or $d=f$ is not established, repeat the adjustment of Y.CROSS (RV1705).

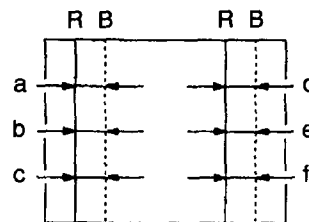


Fig. 3-7

4. Match the horizontal convergence at the centre of the screen with the H STAT VR.
5. Adjust the H TILT (RV1701) so that RED and BLUE, as shown in Fig. 3-8, become $a=b$.

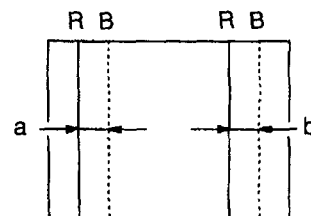


Fig. 3-8

6. Adjust the H AMP (RV1704) so that RED and BLUE, as shown in Fig. 3-9, become $b=c$.

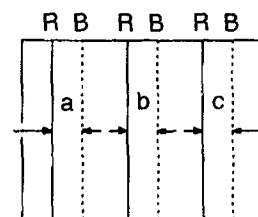
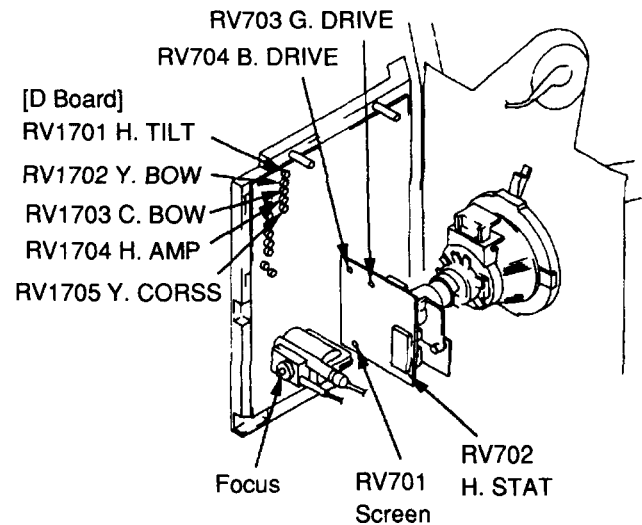
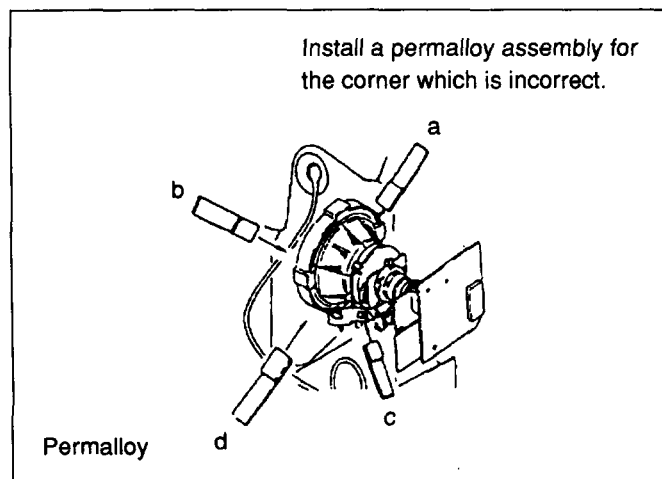
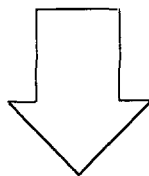
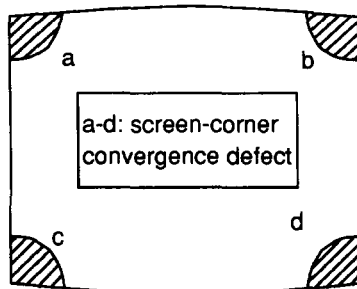


Fig. 3-9

7. Match the horizontal convergence at the centre of the screen with the H STAT VR.
8. When the H AMP is adjusted repeat the procedures described in Step (5) to Step (7).
9. If the convergence at the corners of the screen diverges, the adjustments described from Step (3) onwards should be repeated.



(3) Screen corner convergence



3-3. FOCUS

Adjust the focus to optimize the display.

3-4. WHITE BALANCE

Screen G2 setting

1. Input a dot signal from the Pattern generator.
2. Set the picture **BRIGHTNESS** control to its minimum level.
3. Apply 180V d.c., from an external power supply, to the R, G, and B cathodes.
4. While watching the picture, adjust G2 control RV701 (Screen) to the point just before the fly-back lines disappear.

White balance adjustment

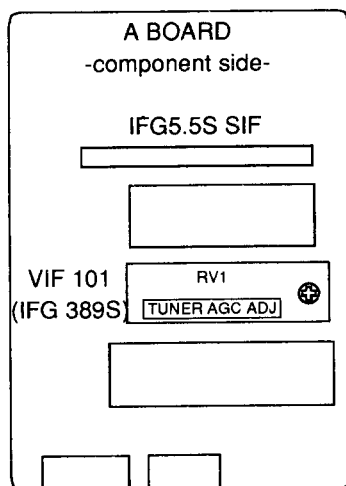
1. Input an all-white signal from the Pattern generator.
2. Set the PICTURE, BRIGHTNESS and COLOUR controls to their normal levels.
3. Use RV704 (B Drive) and RV703 (G Drive) to adjust white balance.

In the adjustments below, unless there is a specific instruction to the contrary, set the PICTURE, COLOUR and BRIGHTNESS controls to their normal levels.

SECTION 4

CIRCUIT ADJUSTMENTS

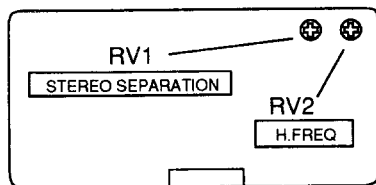
4-1. A BOARD ADJUSTMENTS



TUNER AGC ADJUSTMENT (IFG 389S)

1. Tune to an off-air signal.
2. Adjust AGC VR (IFG389S) so that snow noise and cross-modulation just disappear from the picture.

IFG5. 5S SIF



IFG5.5S SIF -component side-

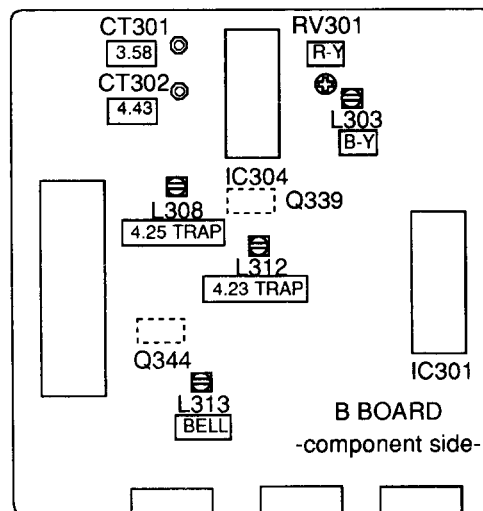
STEREO SEPARATION ADJUSTMENT (RV1)

1. Input stereo signals. (L-CH 400Hz, R-CH 1kHz)
2. Check the stereo indicator.
3. Connect an oscilloscope, via a 1kHz band-pass filter, to pin ⑧ (CH1) of CN1.
4. Adjust RV1 so that the 1kHz signal is reduced to a minimum.

H FREQ (RV2)

1. Input a PAL COLOUR BAR signal. Connect a jumper between IC4-pin ⑫ and GND.
2. Connect a frequency counter, via a 10:1 probe, to pin ④ IFG5.5S (HP) of CN1.
3. Adjust RV2 (H.FREQ) to $15.625\text{kHz} \pm 50\text{Hz}$.
4. After adjustment, remove the jumper.

4-2. B BOARD ADJUSTMENTS



REF OSC NTSC 3.58 MHz Adjustment (CT301)

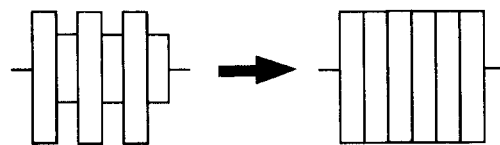
1. Input an NTSC 3.58 MHz COLOUR BAR pattern.
2. Short circuit between IC301-pin ⑪ and ground.
3. Adjust CT301 for the slowest picture movement.
4. Remove the jumper wire from IC301.

REF OSC Adjustment NTSC 4.43 MHz Adjustment (CT302)

1. Input an NTSC 4.43 MHz COLOUR BAR pattern.
2. Short circuit between IC301-pin ⑪ and ground.
3. Adjust CT302 for the slowest picture movement.
4. Remove the jumper wire from IC301.

BELL FILTER ADJUSTMENT (L313)

1. Input a SECAM colour bar signal.
2. Connect the oscilloscope to the emitter of Q344.
3. Adjust L313 so that the waveform is flat.

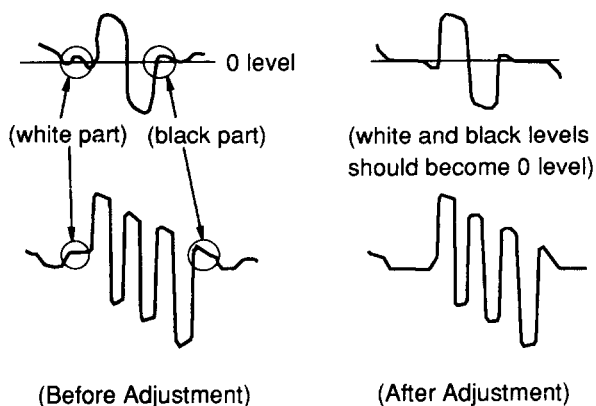


<Before Adjustment>

<After Adjustment>

DISCRIMINATOR ADJUSTMENT (RV301 and L303)

1. Input a SECAM colour bar signal.
2. Connect the oscilloscope to IC304-pin ①.
3. Adjust RV301 until the white and black sections of the waveform at pin ① are at the 0 level.
4. Connect the oscilloscope to IC304-pin ③.
5. Adjust L303 until the white and black sections of the waveform at pin ③ are at the 0 level.



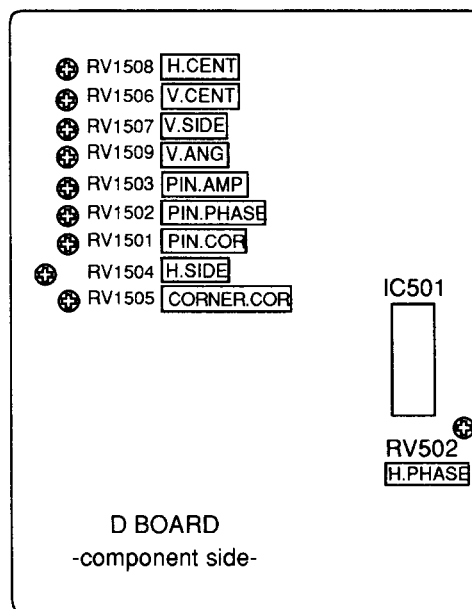
4.25 TRAP Adjustment (L308)

1. Input a SECAM COLOUR BAR pattern.
2. Connect an oscilloscope to the Q339 emitter.
3. Adjust L308 so that the 4.25 MHz waveform is at a minimum.

4.23 TRAP ADJUSTMENT (L312)

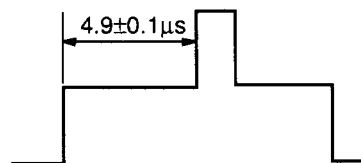
1. Input a SECAM COLOUR BAR pattern.
2. Connect an oscilloscope to the Q339 emitter.
3. Adjust L312 so that the 4.43 MHz waveform is minimum.

4-3. D BOARD ADJUSTMENT



H.PHASE ADJUSTMENT (RV502)

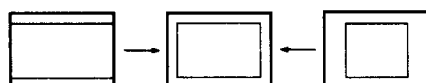
1. Input a PAL colour bar signal.
2. Set the PICTURE and BRIGHTNESS controls to their normal levels.
3. Set RV1508 (H.CENT) to its mechanical centre.
4. Connect the oscilloscope to IC501-pin ① (SCP).
5. Rotate RV502 to adjust the waveform to $4.9 \pm 0.1 \mu s$.



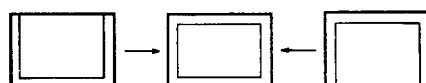
RV1508
H. CENT (HORIZONTAL CENTRE)



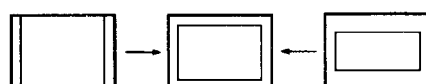
RV1504
H. SIZE (HORIZONTAL SIZE)



RV1506
V. CENT (VERTICAL CENTRE)



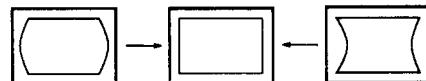
RV1507
V. SIZE (VERTICAL SIZE)



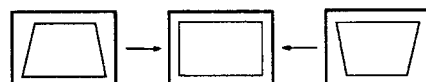
RV1509
V. ANGLE (VERTICAL ANGLE)



RV1503
PIN AMP (PINCUSHION AMPLITUDE)



RV1502
PIN PHASE (PINCUSHION PHASE)



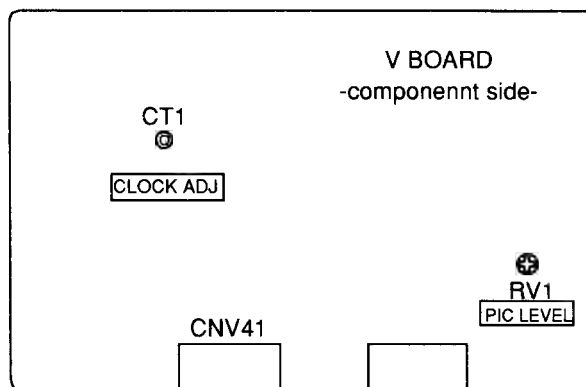
RV1501
PIN COR (PINCUSHION CORRECTION)



RV1505
CORNER COR (CORNER CORRECTION)



4-4. V BOARD ADJUSTMENTS



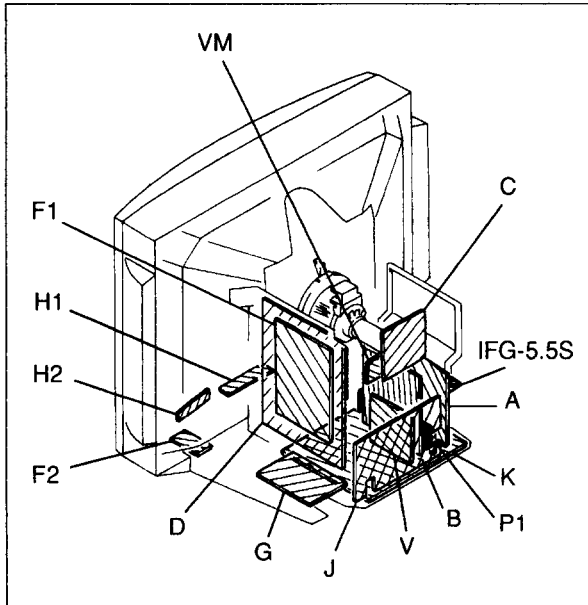
CLOCK ADJUSTMENT (CT1)

1. Remove CNV41 connector pin ③.
2. Put the system into text mode.
3. Adjust CT1 so that the picture is stable.

PIC LEVEL ADJUSTMENT (RV1)

1. Set the PICTURE control to maximum.
2. Adjust RV1 so that the RGB output is 0.75V.

5-4. CIRCUIT BOARDS LOCATION



Note:

Components identified by shading and marked Δ are critical for safety. Replace only with the part number specified.

Reference information

RESISTOR	: RN	METAL FILM
	: RC	SOLID
	: FPRD	NON-FLAMMABLE CARBON
	: FUSE	NON-FLAMMABLE FUSIBLE
	: RS	NON-FLAMMABLE METAL OXIDE
	: RB	NON-FLAMMABLE CEMENT
	: RW	NON-FLAMMABLE WIREWOUND
	: *	VARIABLE RESISTOR
COIL	: LF-8L	MINIATURE INDUCTOR
CAPACITOR	: TA	TANTALUM
	: PS	STYROL
	: PP	POLYPROPYLENE
	: PT	MYLAR
	: MPS	METALIZED POLYESTER
	: MPP	METALIZED POLYPROPYLENE
	: ALB	BIPOLAR
	: ALT	HIGH TEMPERATURE
	: ALR	HIGH RIPPLE

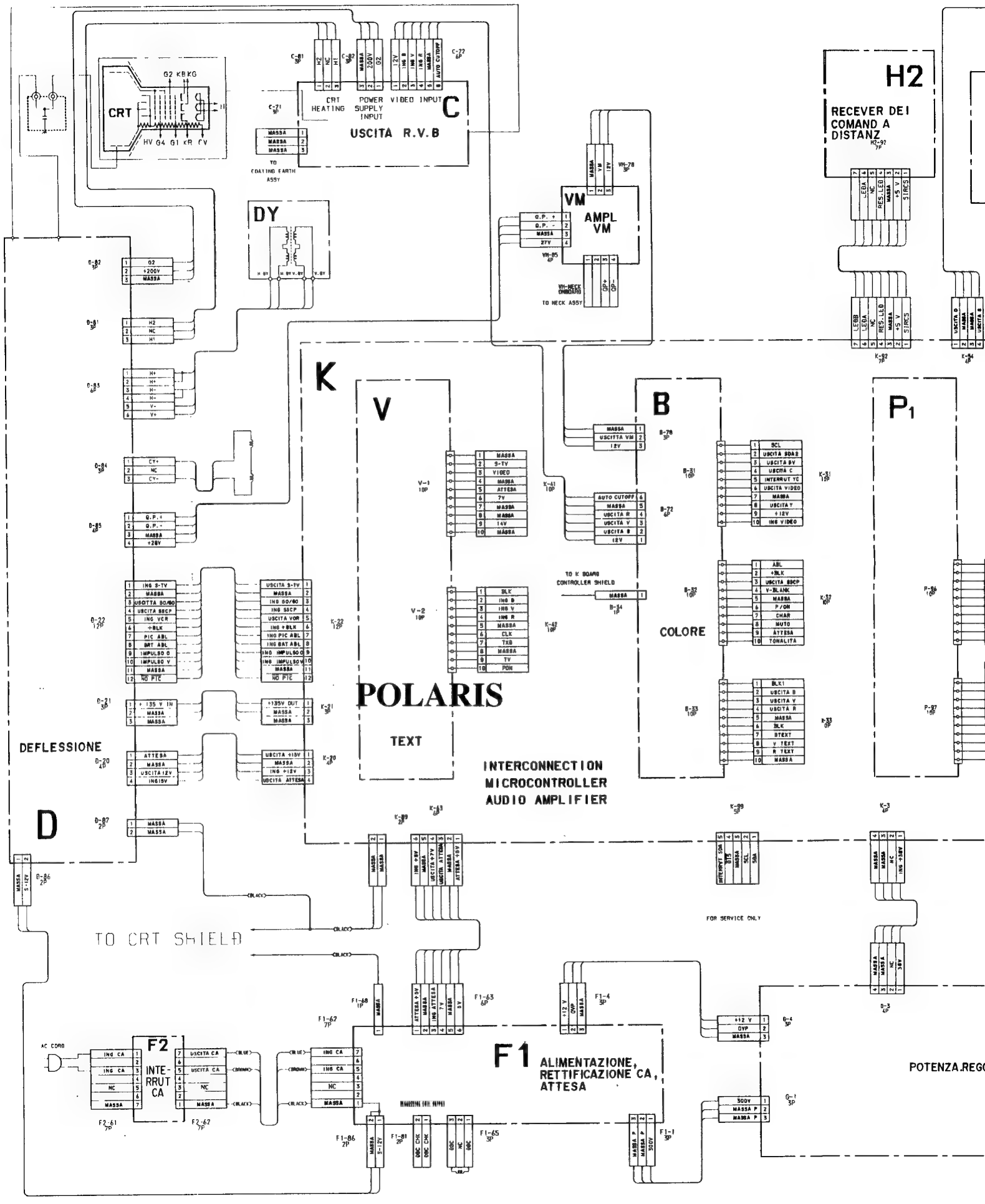
5-5. SCHEMATIC DIAGRAMS AND PRINTED WIRING BOARDS

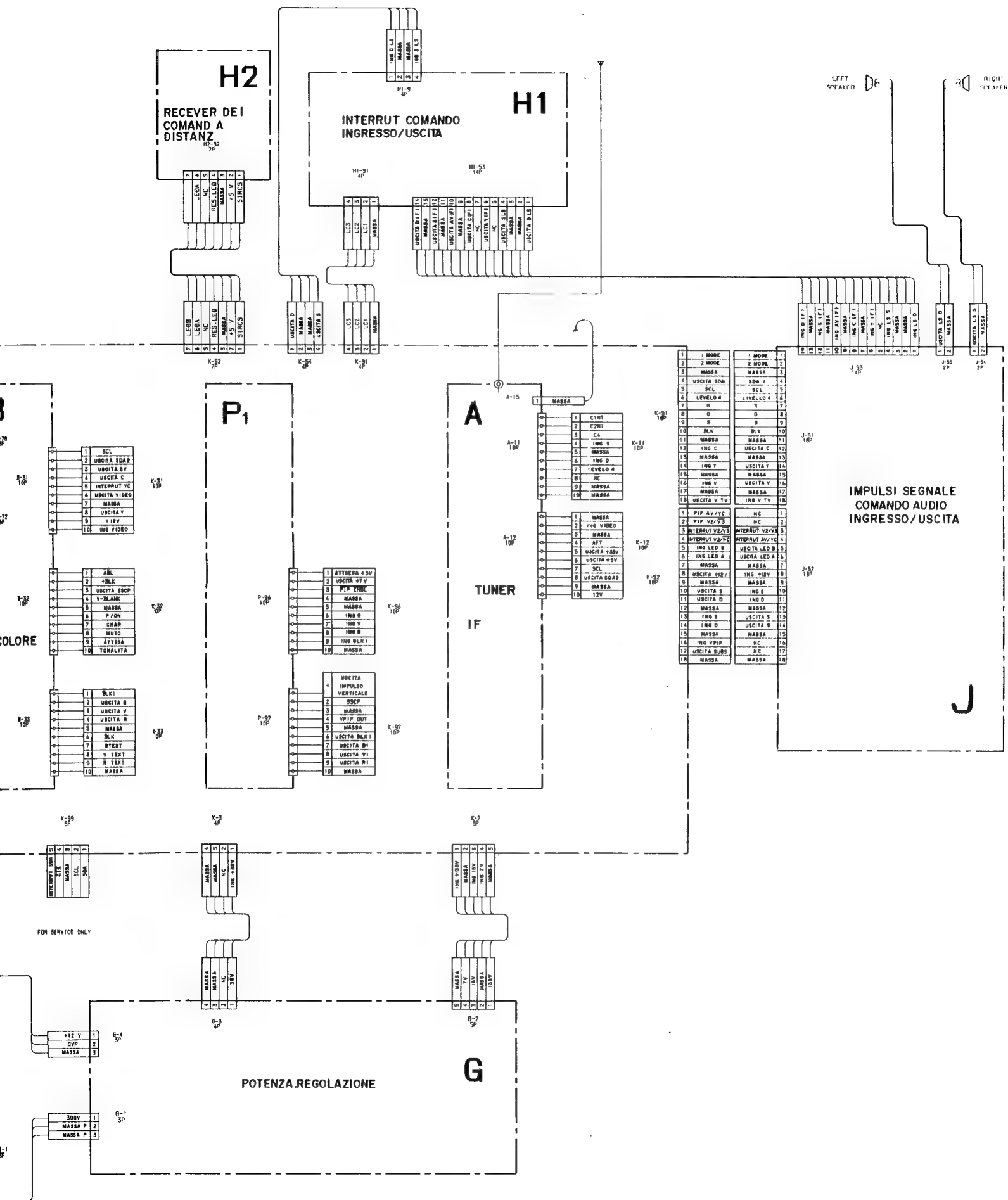
Note:

- All capacitors are in μF unless otherwise stated ($\text{p}=\text{pF}$). Working voltage of 50V or less are not indicated, except for electrolytics.
- Resistors which do not have a power rating value shown are as follows.

Pitch: 5 mm
Power rating: 1/4W

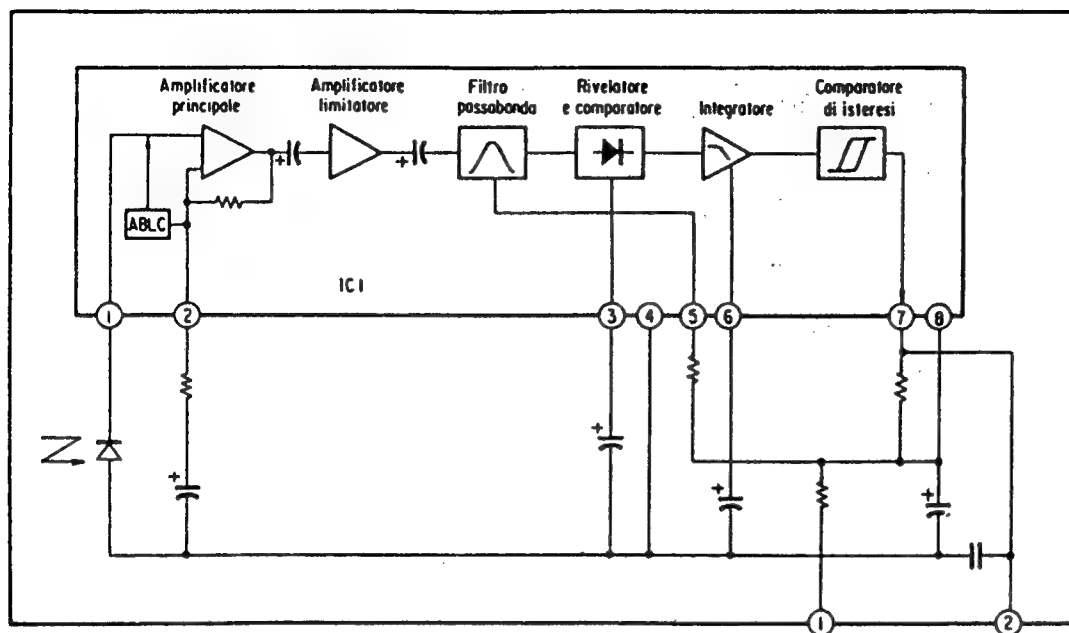
- Chip resistors are 1/10W.
- All resistor values are in Ohms. $\text{k}\Omega=1000\Omega$, $\text{M}\Omega=1000\text{k}\Omega$.
- : nonflammable resistor.
- : fusible resistor.
- Δ : internal component.
- : panel outline or servicing adjustment.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- All voltages shown are in Volts.
- Readings were taken with a 10 $\text{M}\Omega$ digital multimeter.
- Readings were taken with a colour-bar signal input.
- Voltage variations may occur to normal production tolerance.
- : Voltage supply rails.
- : Signal path.



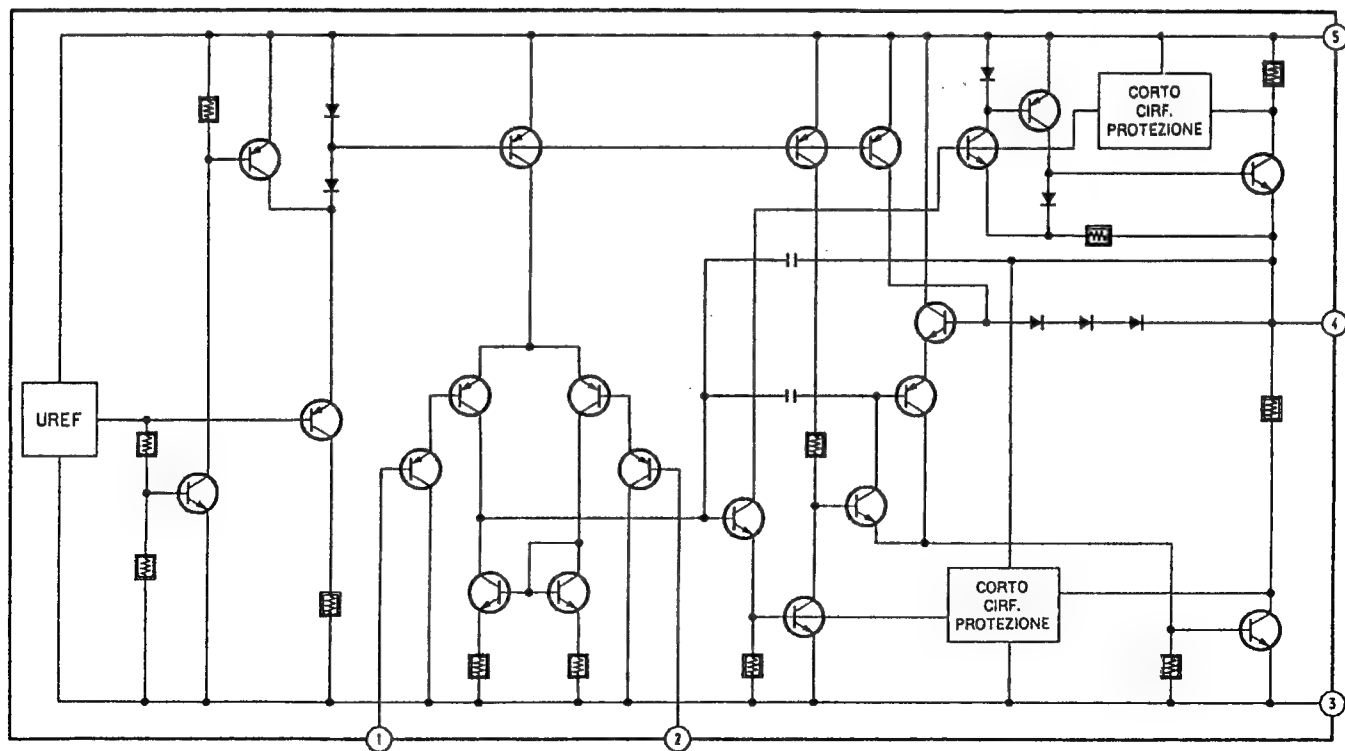


H1[INTERRUT, CONTROLLO ING AUDIO/
VIDEO, USCITA AUDIO/VIDEO]**H2**[RECEIVER DEI
COMANDI A DISTANZA]

Cir. Stamp. H2 IC951 BX1387



Cir. Stamp. K IC1251/1261 TDA2050

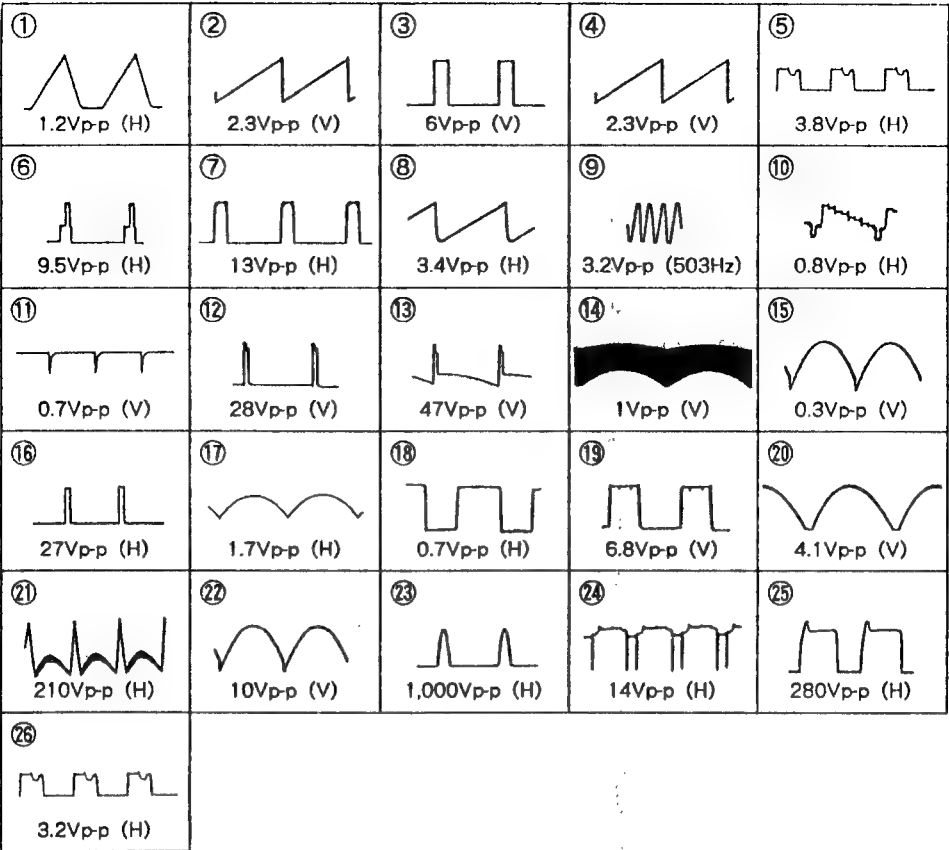


	IC301	TDA4580-V4	PROCESSO VIDEO
	IC302	TDA8442-N3	CONVERTITORE DIGITALE/ANALOGICO
	IC303	TDA4660	1H LINE DI RITARDO
	IC304	TDA4650	PROCESSO COLORE
	IC306	HCF-4052BEY	INTERROUT Y/C
	IC308	CXA20061	INTERRUZIONE Y
	IC312	28X1650-21	FILTRO DI ACCOPPIAMENTO
	IC1310	HIC2110	INTERROUT Y
B	Q301	25C2412K	+ANNULLAMENTO CANALE
	Q302	25C2412K	INTERROUT INDICATORE SCHERMO
	Q303	25C2412K	INTERROUT MUTO IMAGE FAS
	Q304	25C2412K	INTERROUT INDICATORE SCHERMO
	Q305	DTA144EK	INTERROUT MUTO
	Q306	25C2412K	INTERROUT STTESA
	Q307	25C2412K	LIMITATORE DI LUMINOSITA AUTOMATICO
	Q308	DTC124EK	MUTO
	Q310	DTC124EK	INTERROUT SECAM
	Q311	DTC124EK	INTERROUT SECAM
	Q312	25A1037K	INTERROUT A/C
	Q313	25C2412K	INTERROUT A/C
	Q320	25C2412K	BUFFER TONALITA
	Q321	25A1037K	OROLOGIO AMPLIFICATORE 3
	Q322	25A1037K	OROLOGIO AMPLIFICATORE 2
	Q323	25C2412K	OROLOGIO AMPLIFICATORE 1
	Q324	25C2412K	OROLOGIO BUFFER
	Q327	25A1037K	USCITA Y
	Q328	25A1037K	ING VIDEO
	Q329	25A1037K	ING Y
	Q330	25C2412K	BUFFER VIDEO
	Q331	25A1037K	USCITA C
	Q332	25A1037K	ING C
	Q333	DTC124EK	INTERROUT Y/C
	Q334	DTC124EK	INTERROUT Y
	Q335	25C2412K	INTERROUT SECAM
	Q336	25C2412K	INTERROUT NTSC (3.58)
	Q337	25C2412K	INTERROUT NTSC (4.43)
	Q338	25A1037K	Y BUFFER
	Q339	25C2412K	Y BUFFER
	Q340	25C2412K	Y BUFFER
	Q341	25C2412K	INTERROUT SECAM TRAP
	Q342	25C2412K	INTERROUT NTSC TRAP
	Q343	25C2412K	USCITA C
	Q344	25C2412K	INTERROUT SECAM
	Q345	25C2412K	INTERROUT PAL/SECAM
	Q346	25C2412K	ING Y
	Q347	25C2412K	INTERROUT PAL
	Q348	25C2412K	INTERROUT DI TRAPPOLA NTSC 3.58
	Q1301	DTC124EK	BUFF Y
	Q1302	25C2412K	USCITA Y
	Q1303	25C2412K	MUTO VM
	D301	15S133	ATTESA AT ACO
	D302	15S133	ATTESA AT ACO
	D303	15S133	ATTESA AT ACO
	D304	15S133	PROTEZIONE
	D305	15S133	PROTEZIONE
	D306	ERAB1-004	PROTEZIONE
	D307	RD11ESB3	PROTEZIONE
	D308	15S133	ARRESTO ANDARE INDIETRO
	D309	15S133	PROTEZIONE
	D310	RD11ESB3	PROTEZIONE
	D311	RD11ESB3	PROTEZIONE
	D312	RD11ESB3	PROTEZIONE
	D313	15S133	PROTEZIONE
	D314	15S133	PROTEZIONE
	D315	15S133	PROTEZIONE
	D316	15S133	PROTEZIONE
	D317	15S133	PROTEZIONE
	D318	15S133	PROTEZIONE
	D319	15S133	PROTEZIONE
	D320	15S133	PROTEZIONE
	D321	ROS.6ESB3	REG
	D322	15S133	CORRECT
	D323	15S133	CORRECT
	D324	DA204K	PROTEZIONE
	D325	DA204K	PROTEZIONE
	D326	DA204K	PROTEZIONE
	D327	15S119	PROTEZIONE
	D329	RD3.0NB1	PROTEZIONE
	D330	15S133	POLARIZZAZIONE
	D331	15S133	INTERROUT Y/C
	D332	15S133	INTERROUT Y/C
	D333	15S133	INTERROUT SECAM
	D334	15S133	INTERROUT SECAM
	D335	15S133	INTERROUT PAL
	D336	15S133	INTERROUT CORRECT
	D337	15S133	INTERROUT CORRECT
	D338	15S133	INTERROUT CORRECT

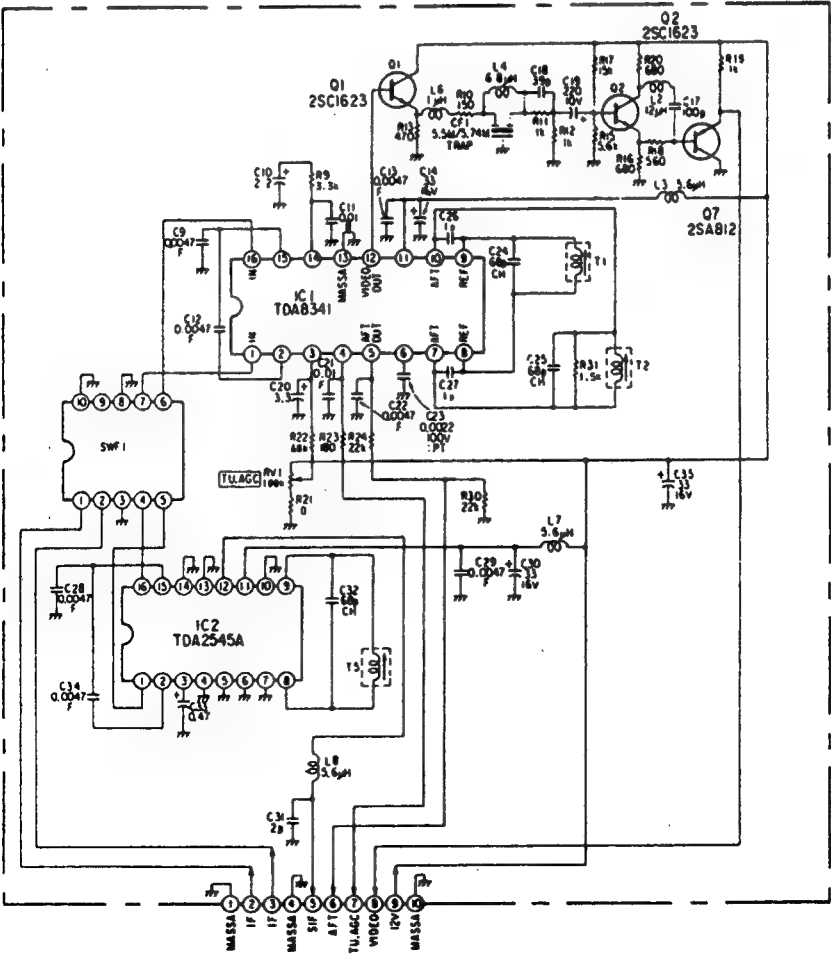
Clr. Stamp B

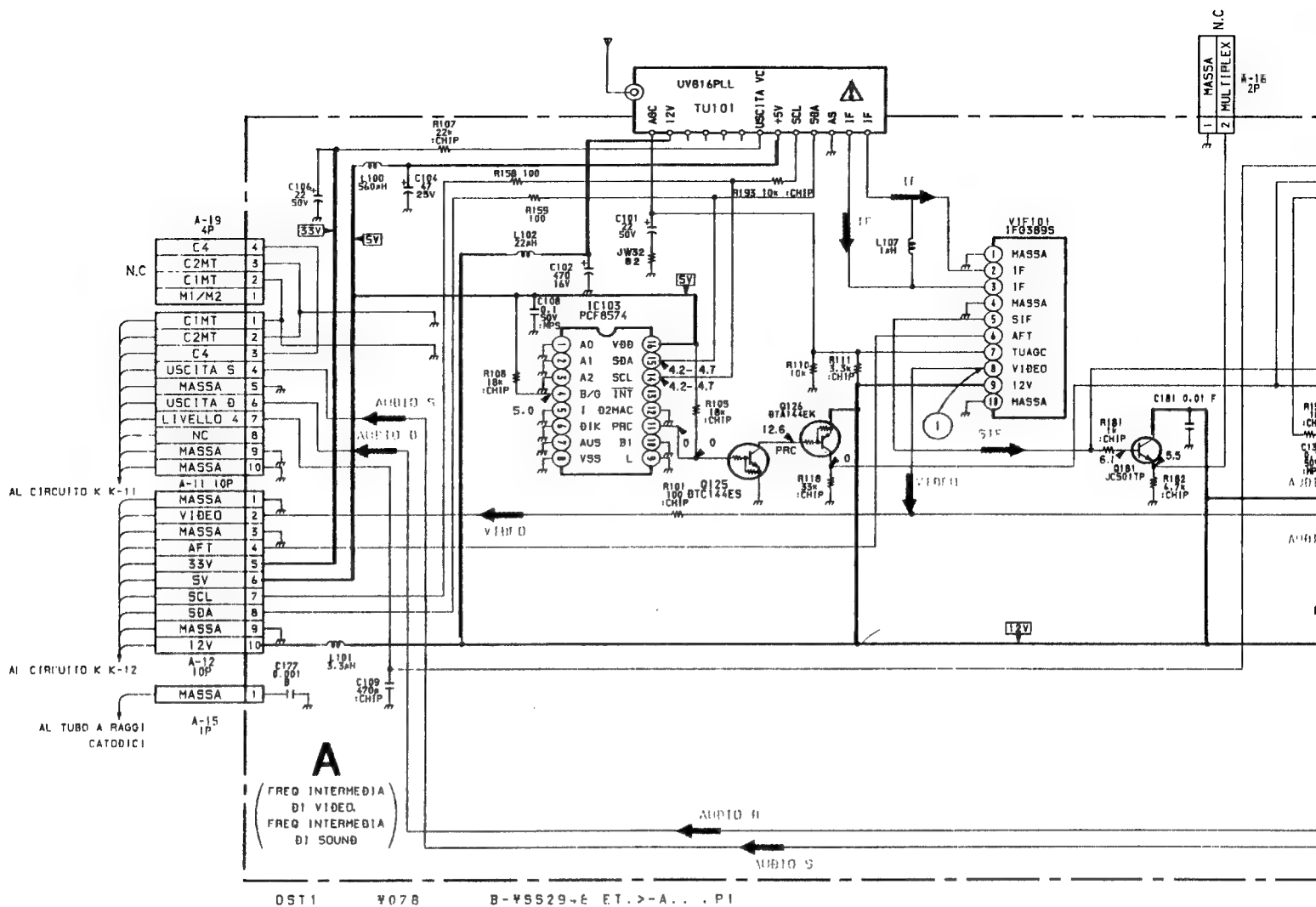
① PAL 4.2Vp-p (H)	① SECAM 4.6Vp-p (H)	① NTSC 3.58 5.0Vp-p (H)	① NTSC 4.43 4.8Vp-p (H)
② PAL 4.8Vp-p (H)	② SECAM 4.8Vp-p (H)	② NTSC 3.58 4.8Vp-p (H)	② NTSC 4.43 5.0Vp-p (H)
③ PAL 4.6Vp-p (H)	③ SECAM 5.0Vp-p (H)	③ NTSC 3.58 4.6Vp-p (H)	③ NTSC 4.43 5.0Vp-p (H)
④ PAL 10Vp-p (H)	④ NTSC 3.58/ NTSC 4.4 9Vp-p (H)	⑤ PAL 0.35Vp-p (H)	⑤ SECAM 0.35Vp-p (H)
⑤ NTSC 3.58 0.35Vp-p (H)	⑤ NTSC 4.43 0.36Vp-p (H)	⑥ PAL 1.2Vp-p (H)	⑥ SECAM/ NTSC 3.58 1.0Vp-p (H)
⑥ NTSC 4.43 1.0Vp-p (H)	⑦ PAL 1.4Vp-p (H)	⑦ SECAM/NTSC 3.58 /NTSC 4.43 1.3Vp-p (H)	⑧ PAL 0.6Vp-p (H)
⑧ SECAM 1.0Vp-p (H)	⑧ NTSC 3.58 0.5Vp-p (H)	⑧ NTSC 4.43 0.6Vp-p (H)	⑨ PAL 0.8Vp-p (H)
⑨ SECAM 1.3Vp-p (H)	⑨ NTSC 3.58/ NTSC 4.43 0.7Vp-p (H)	⑩ SECAM 0.15Vp-p (H)	⑪ SECAM 0.7Vp-p (H)
⑫ PAL 0.08Vp-p (H)	⑫ SECAM 0.1Vp-p (H)	⑫ NTSC 3.58 0.1Vp-p (H)	⑫ NTSC 4.43 0.15Vp-p (H)
⑭ PAL/NTSC 3.58/ NTSC 4.43 1.0Vp-p (H)	⑭ SECAM 1.0Vp-p (H)	⑮ PAL 0.4Vp-p (H)	⑮ NTSC 4.43 0.5Vp-p (H)
⑮ PAL 0.9Vp-p (H)	⑮ NTSC 4.43 1Vp-p (H)	⑰ PAL 0.8Vp-p (H)	⑰ NTSC 4.43 0.6Vp-p (H)
⑰ PAL 0.4Vp-p (H)	⑰ SECAM 1.0Vp-p (H)	⑰ NTSC 3.58 1.0Vp-p (H)	⑰ PAL 0.8Vp-p (H)
⑰ SECAM 0.9Vp-p (H)	⑰ NTSC 3.58 0.8Vp-p (H)	⑰ NTSC 4.43 0.9Vp-p (H)	⑰ PAL 0.4Vp-p (H)
⑰ SECAM 1.1Vp-p (H)	⑰ NTSC 3.58 0.4Vp-p (H)	⑰ NTSC 4.43 0.5Vp-p (H)	

Clr. Stamp D

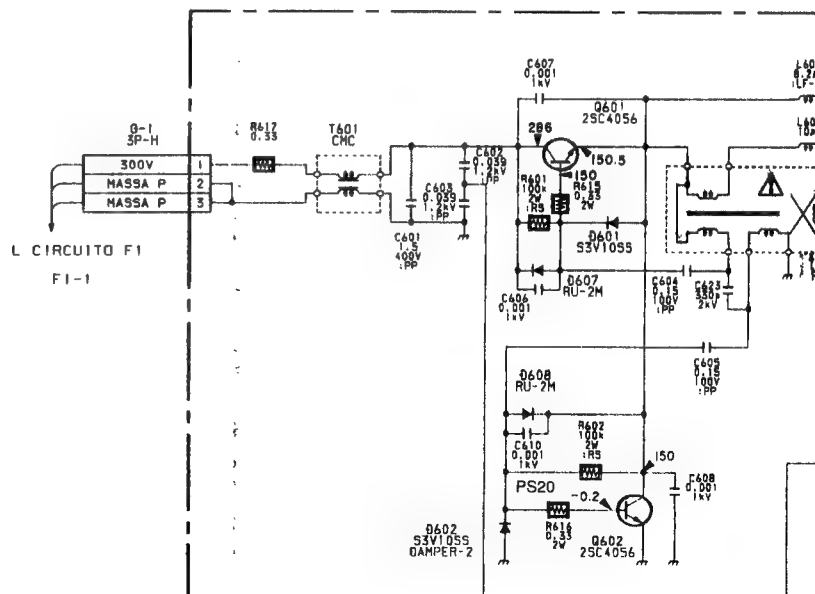


CIRCUITO STAMPATO A VIF101 IFG-389S





DST1 W078 B-W5529-E ET.->A...PI

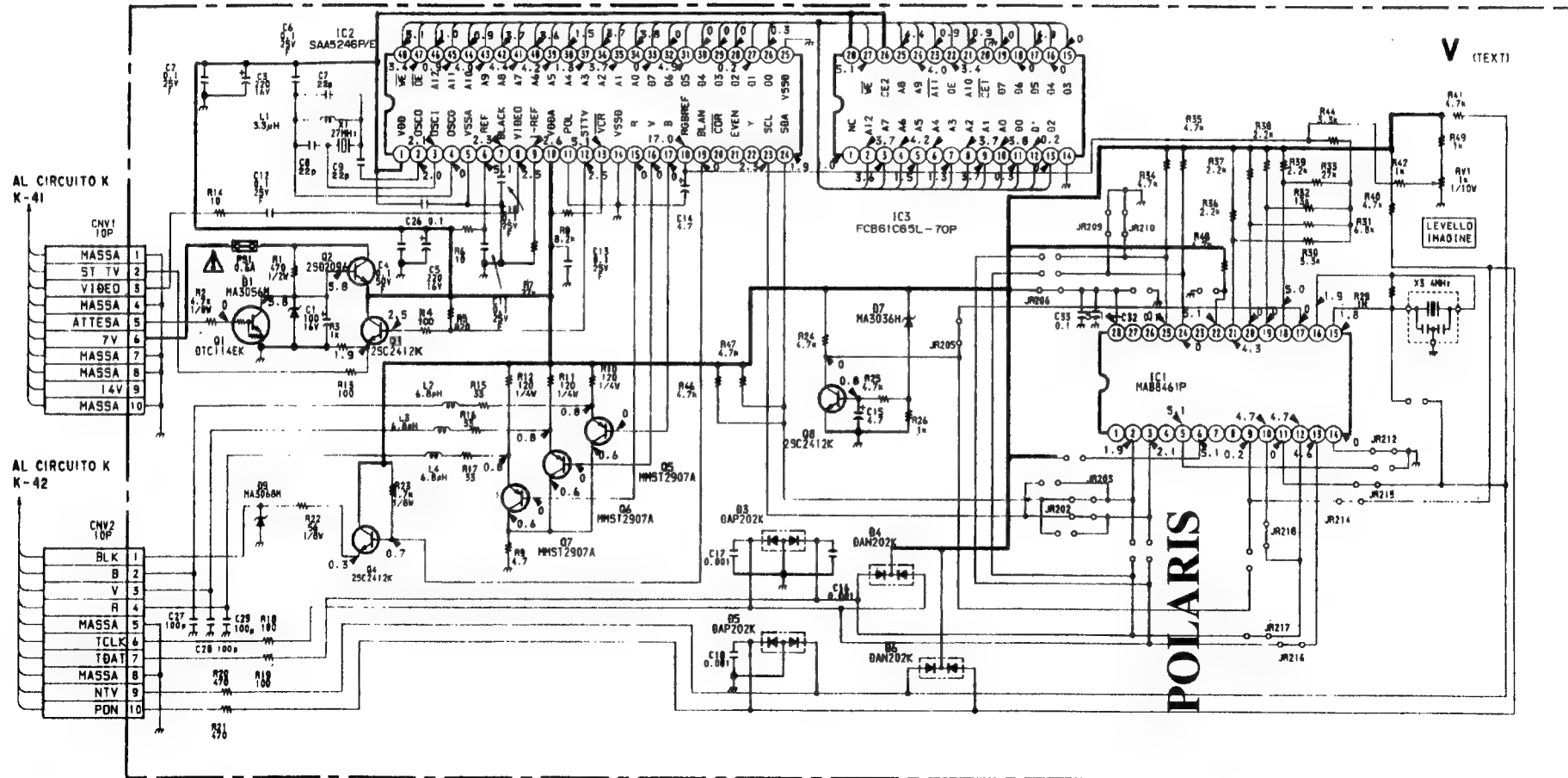


G (POTENZA.
REGOLAZIONE)

671	μ PC7812H	REG 12V
671	2SD795-P	INTERRUT ATTESA
672	JC501-Q	INTERRUT ATTESA
673	JC501-Q	PILOTA RELE
674	IC501	REG 12V
675	IC501	ARRESTO
651	KBU4JL-6088	RETTIFICAZIONE PRINCIPALE
670	S1VB10-S	RETTIFICAZIONE 5V
671	S1VB10-S	RETTIFICAZIONE 12V
672	RD5.6ESB2	SMORZATORE RELE
673	1SS133	SMORZATORE RELE
674	1SS133	SMORZATORE RELE
675	1SS133	ARRESTO
676	1SS133	ARRESTO

AL CIRCUITO K
K-41

AL CIRCUITO K
K-42

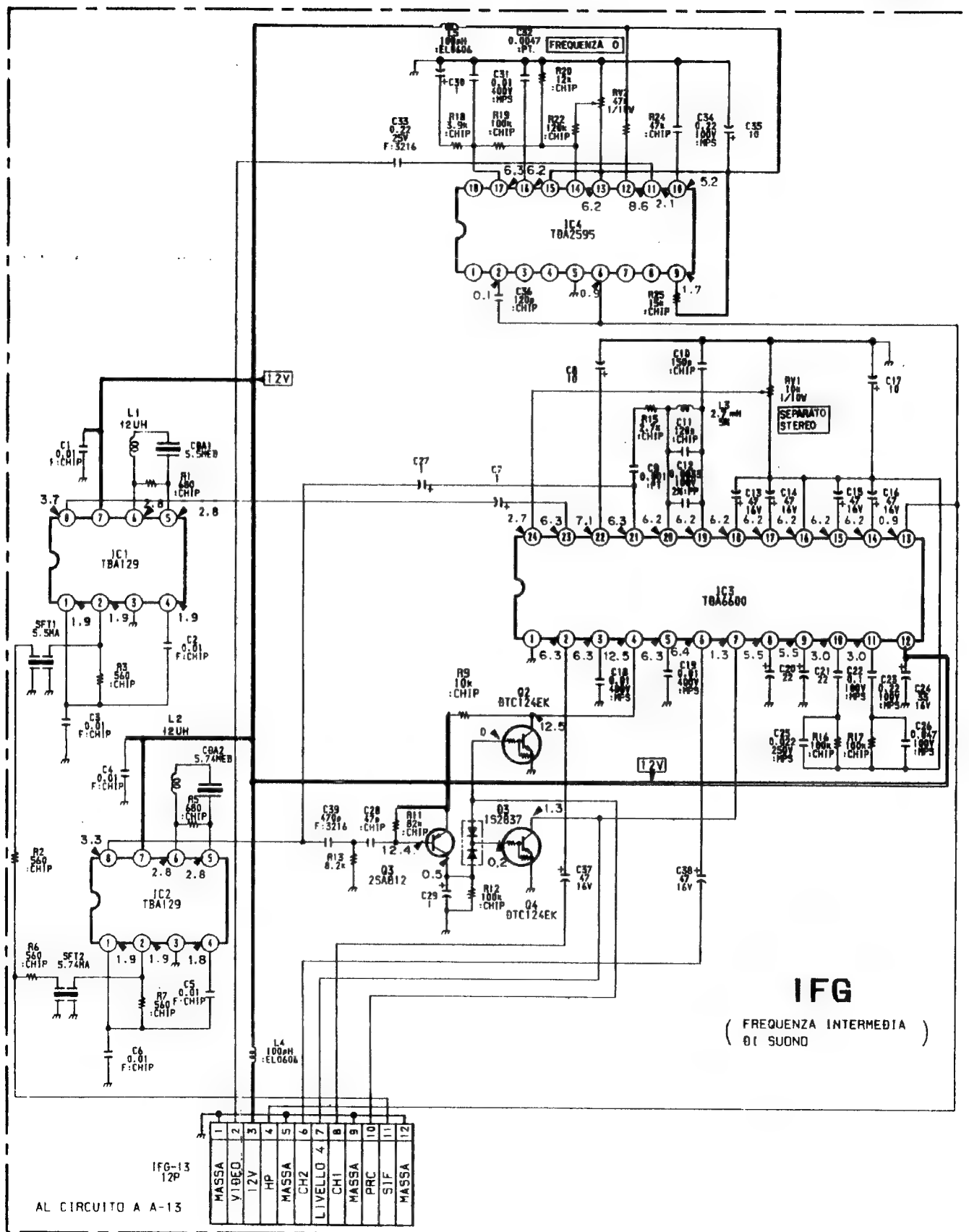


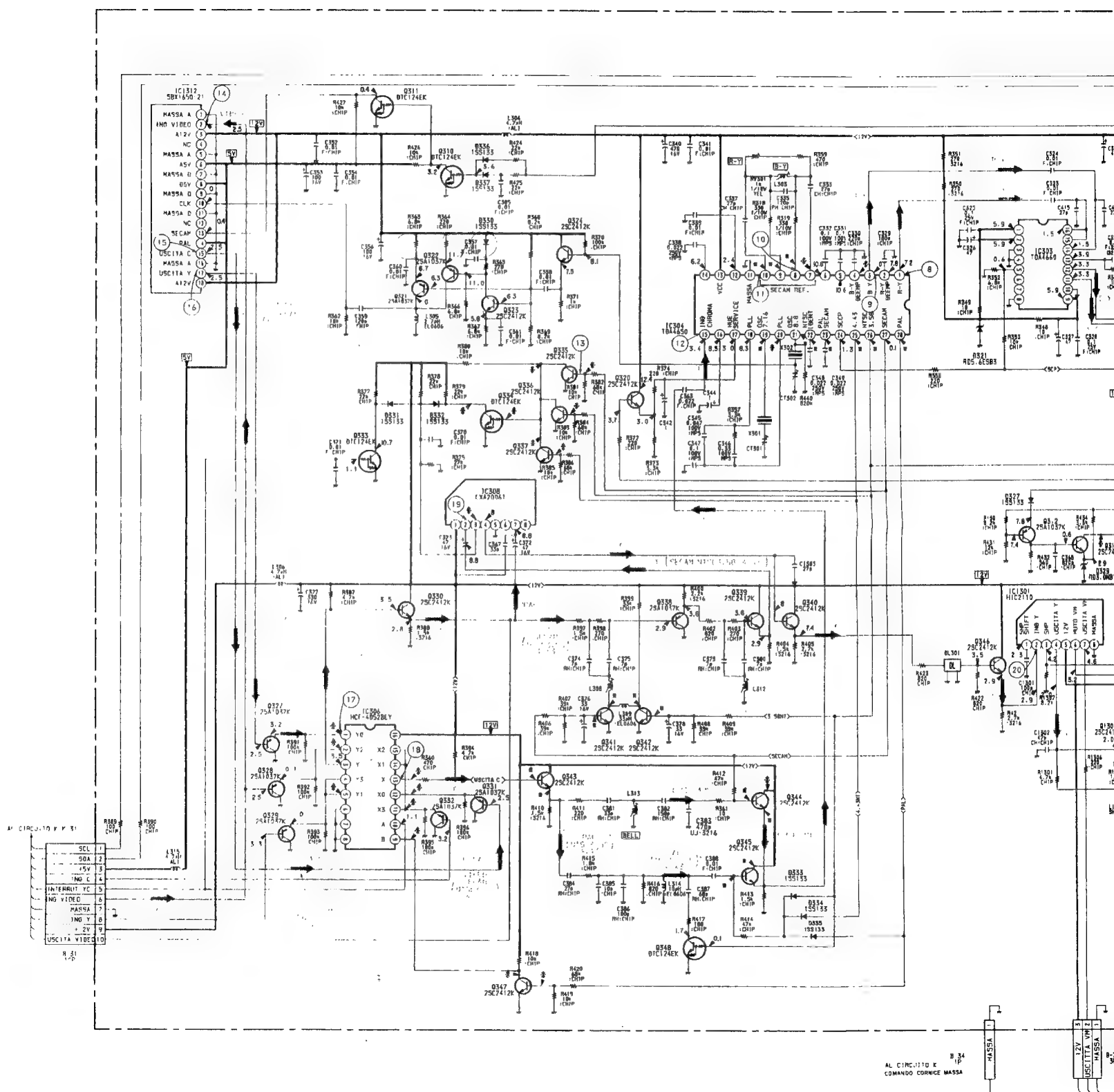
V (TEXT)

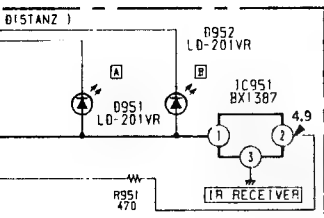
POLARIS

**CIRCUITO STAMPATO A
SIF102 IFG-5.5S**

SCHEMA ELETTRICO DEL GRUPPO ALTA FREQUENZA

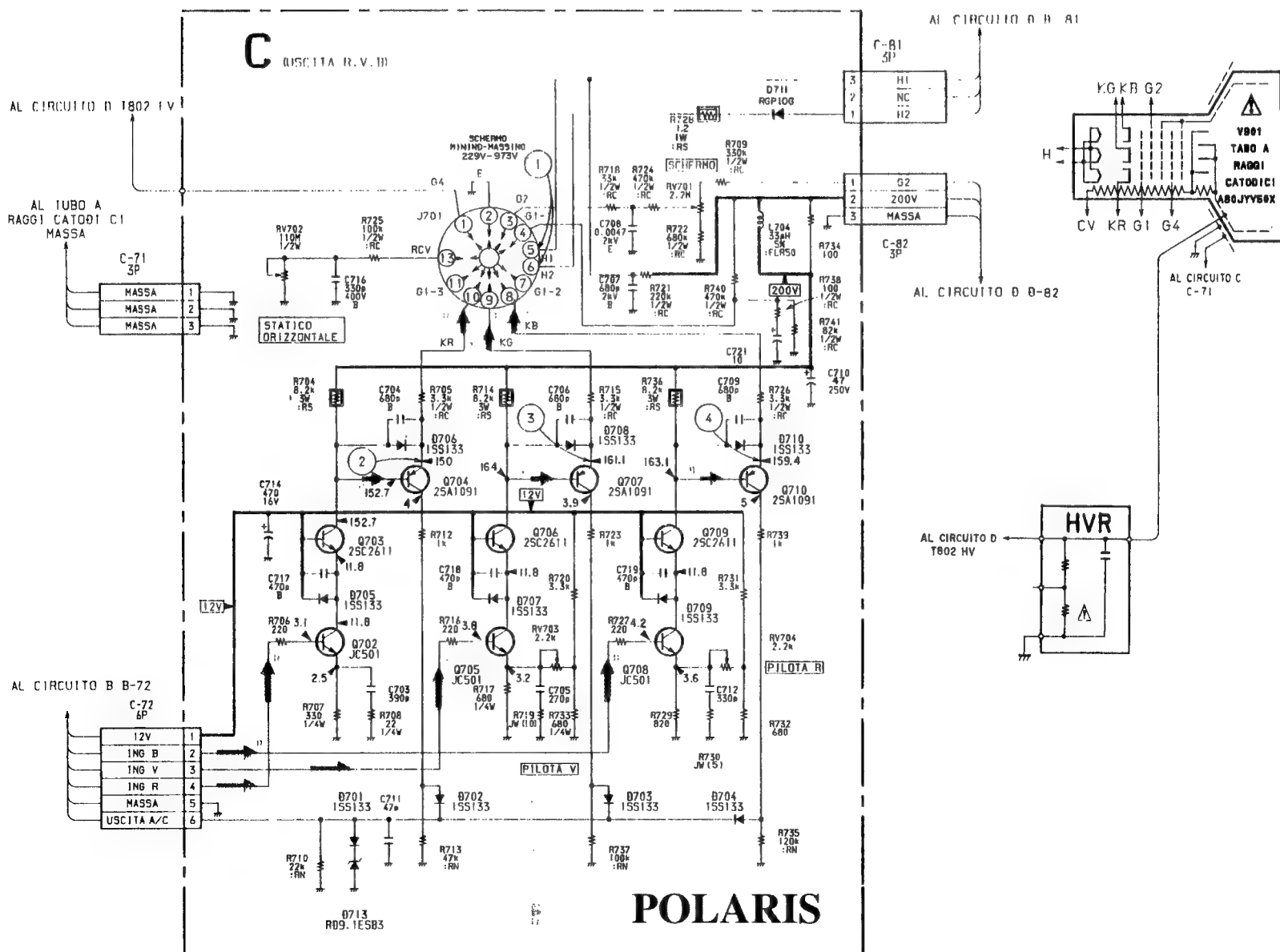


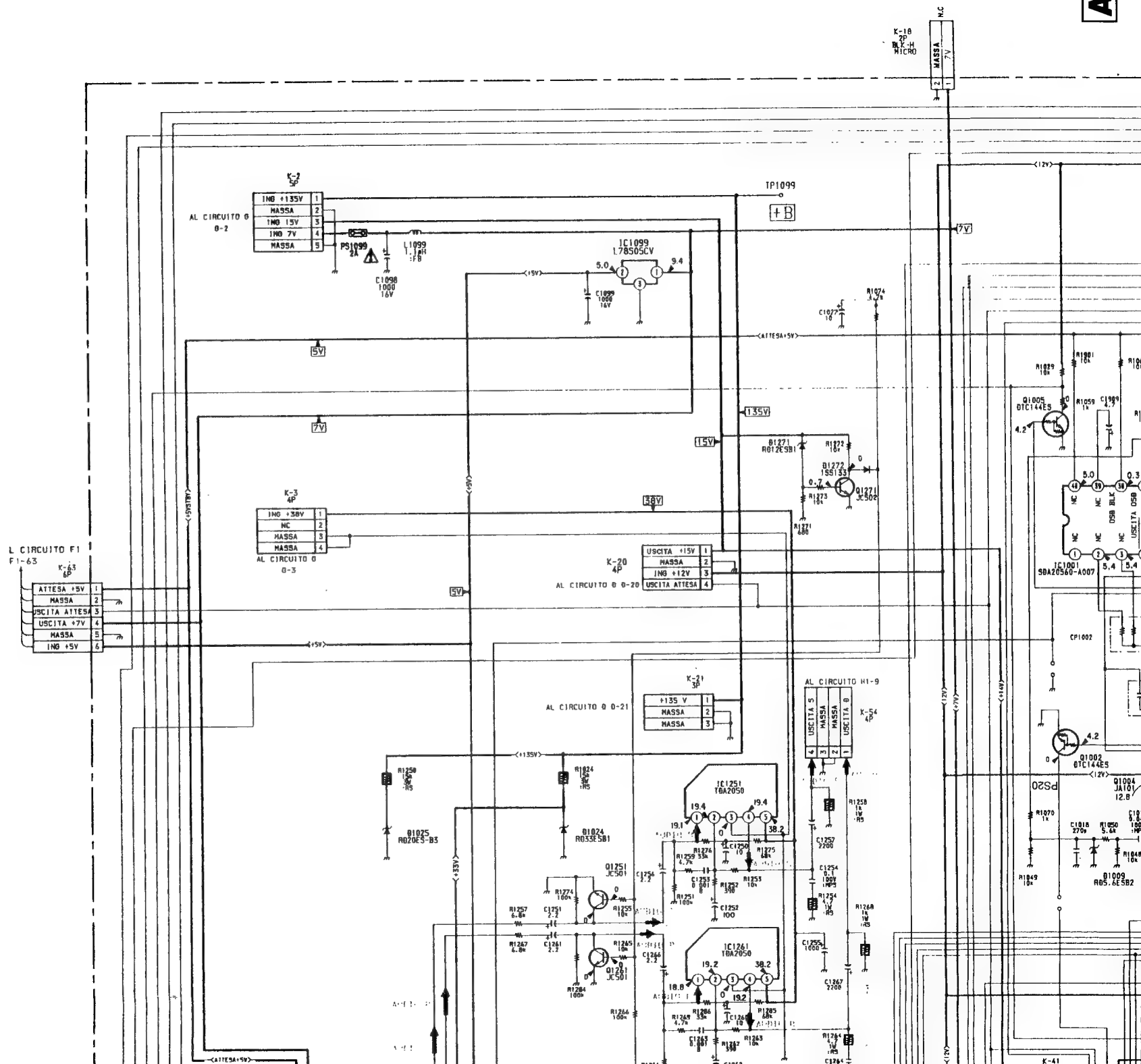


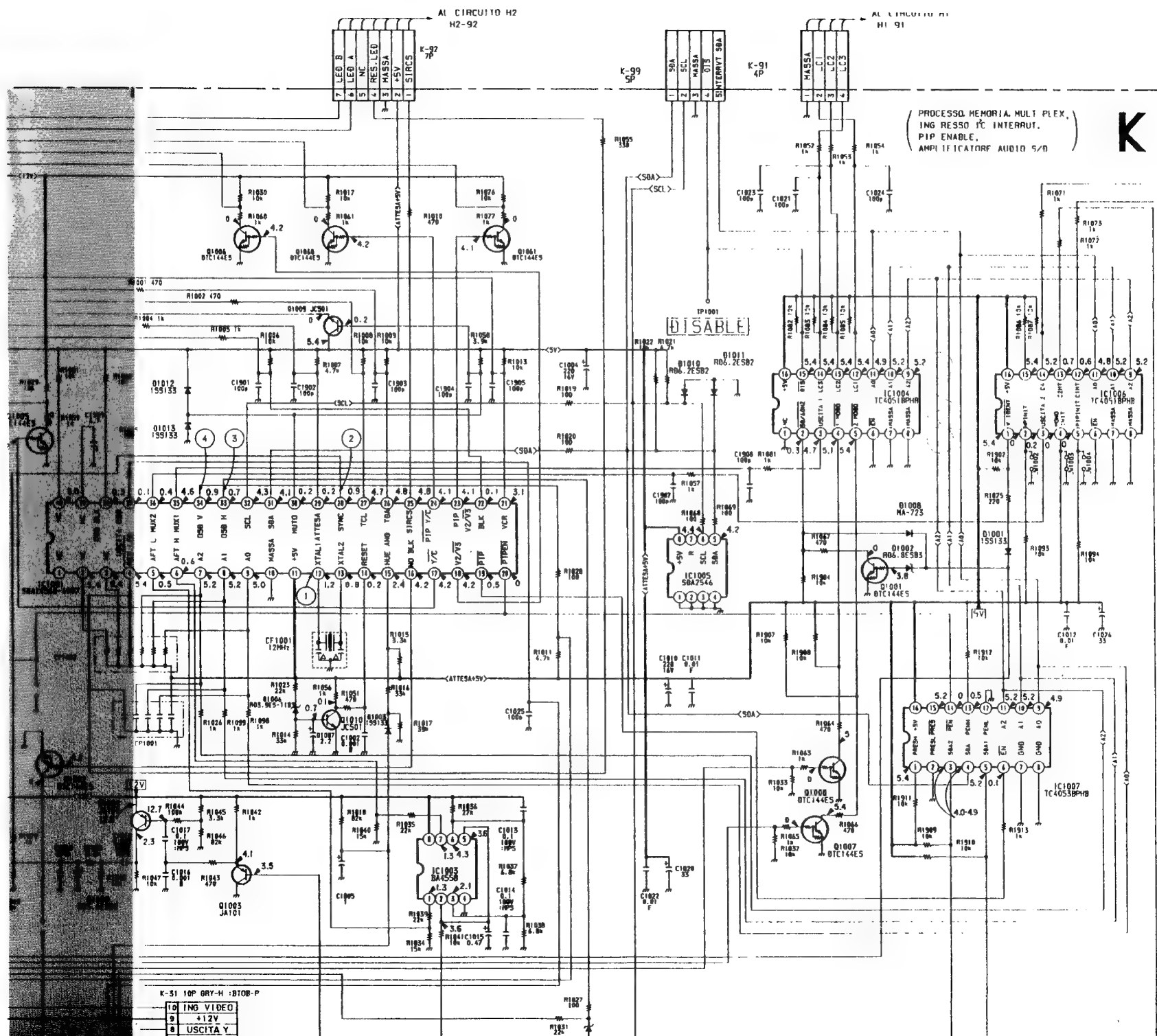


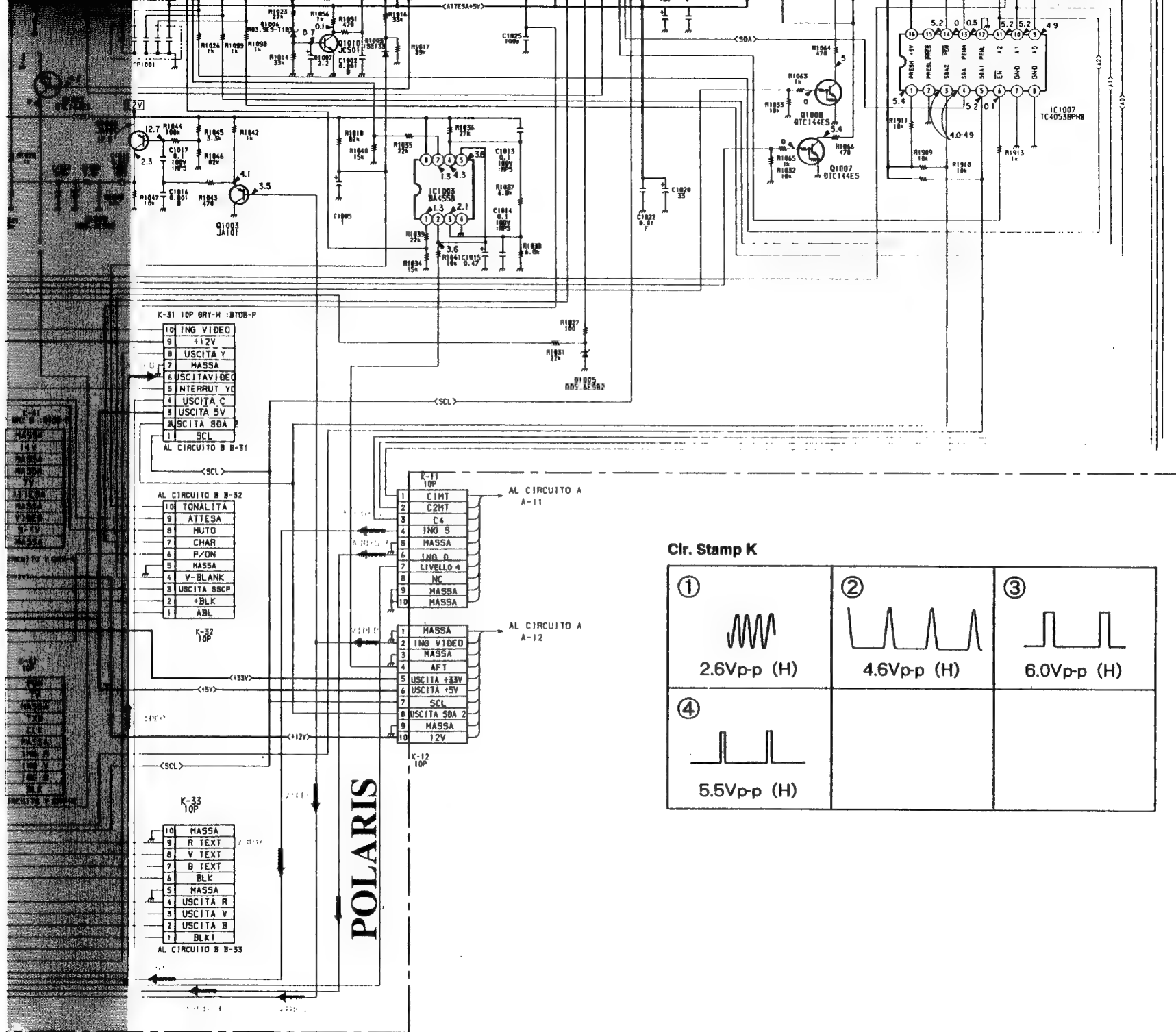
TO K K-92

Q702	25C2785	AMPL R
Q703	25C2611	USCITA R
Q704	25A1091	TAGLIO AUTMATICO R
Q705	25C2785	AMPL V
Q706	25C2611	USCITA V
Q707	25A1091	TAGLIO AUTMATICO V
Q708	25C2785	AMPL B
Q709	25C2611	USCITA B
Q710	25A1091	TAGLIO AUTMATICO B
Q701	1SS119	PROTEZIONE
Q702	1SS119	PROTEZIONE
Q703	1SS119	PROTEZIONE
Q704	1SS119	PROTEZIONE
Q705	1SS119	PROTEZIONE
Q706	1SS119	PROTEZIONE
Q707	1SS119	PROTEZIONE
Q708	1SS119	PROTEZIONE
Q709	1SS119	PROTEZIONE
Q710	1SS119	PROTEZIONE
Q711	RGP10G	RETTIFICAZIONE IMPULSO ORIZZONTALE
Q713	RD9.1ESB3	PROTEZIONE

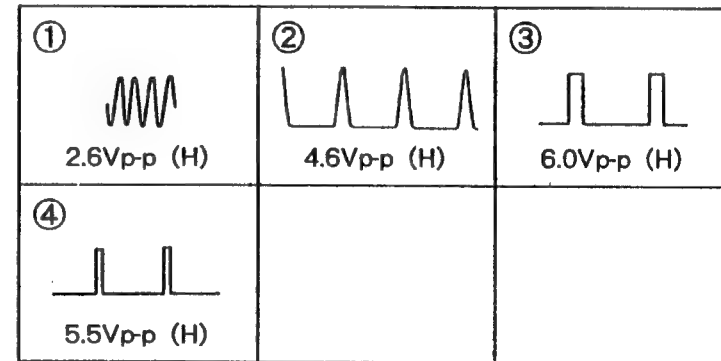


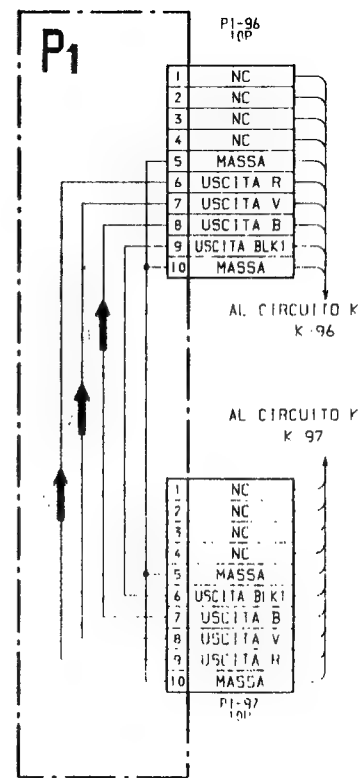
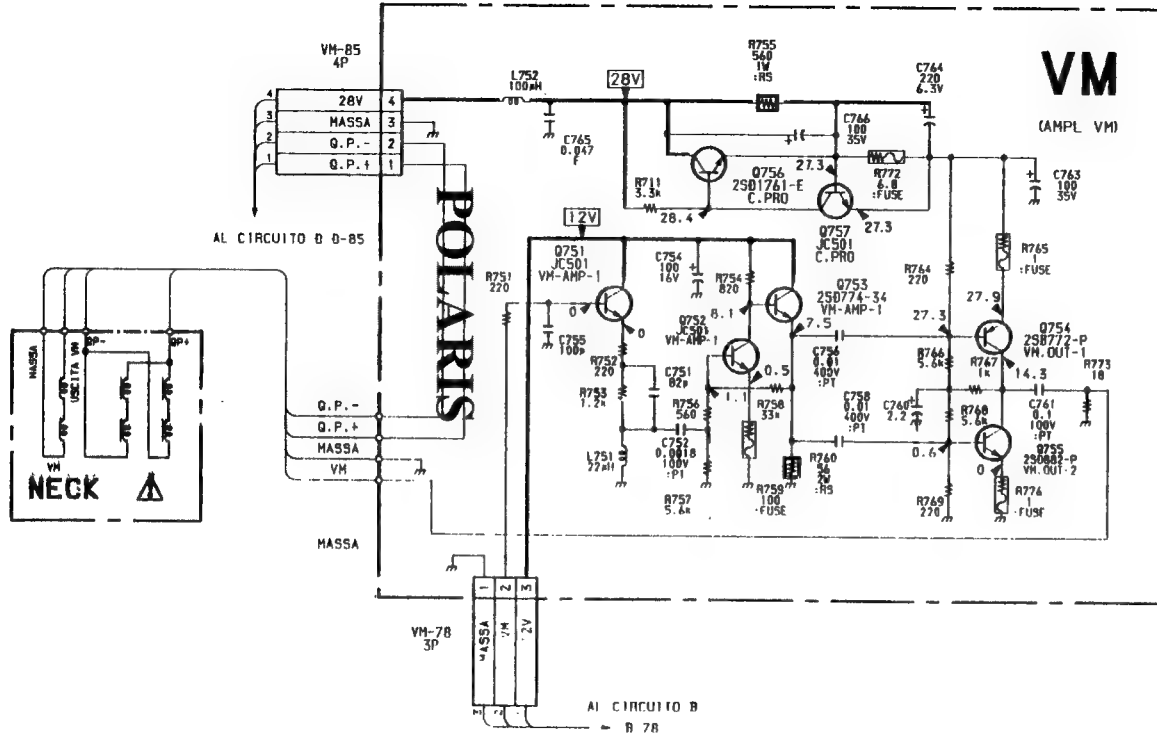




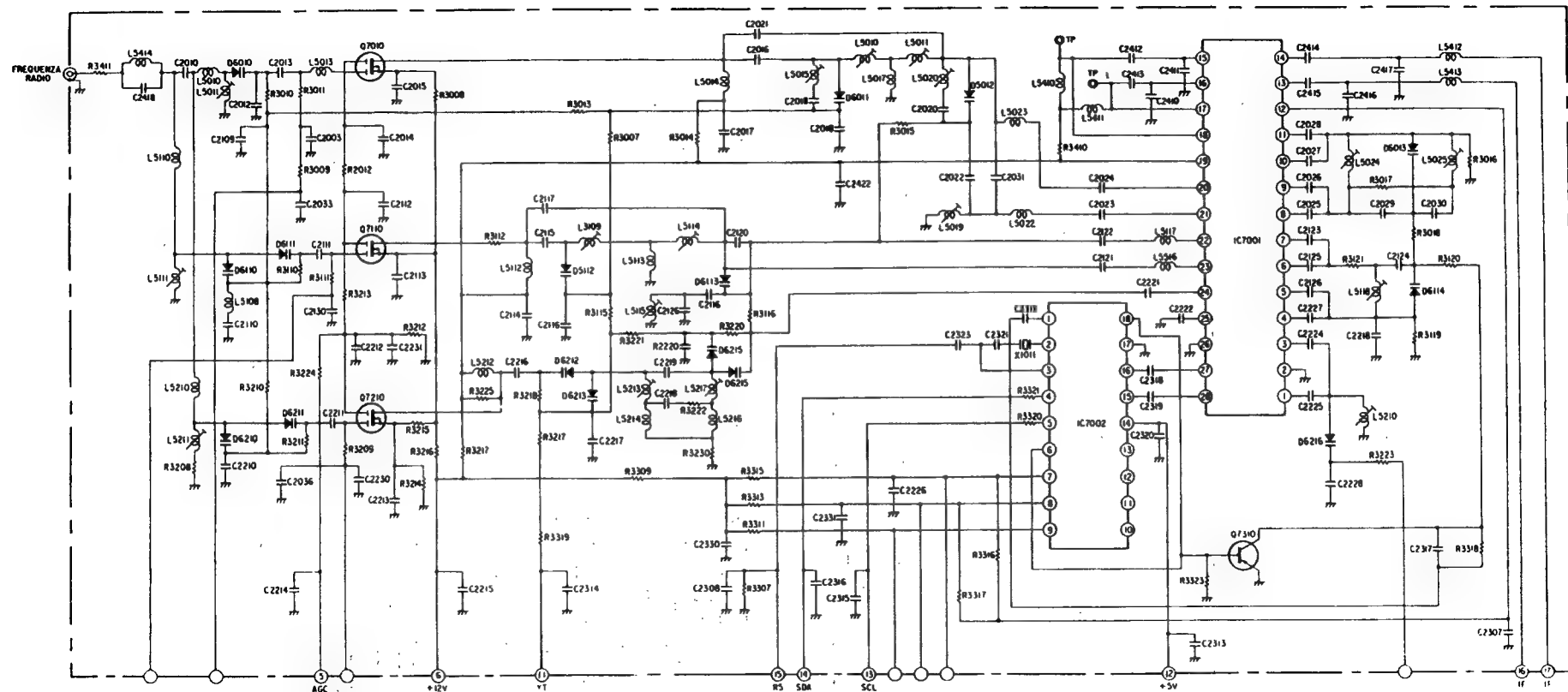


Cir. Stamp K





CIRCUITO STAMPATO A TU101 UV-816PLL



AL CIRCUITO F1

F1 BA

S 12V

MASSA

C 0.1

AL CIRCUITO C

C 0.1

AL HVR

AL CIRCUITO C

FV

POLARIS

AL CIRCUITO

K K-21

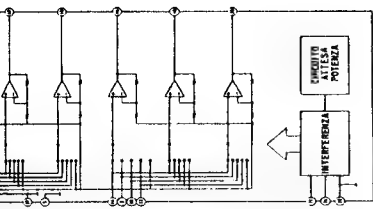
AL CIRCUITO

C C 82

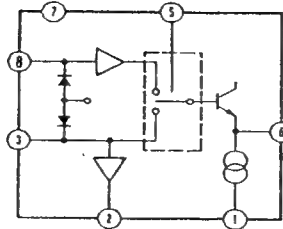
AL CIRCUITO

K K-20

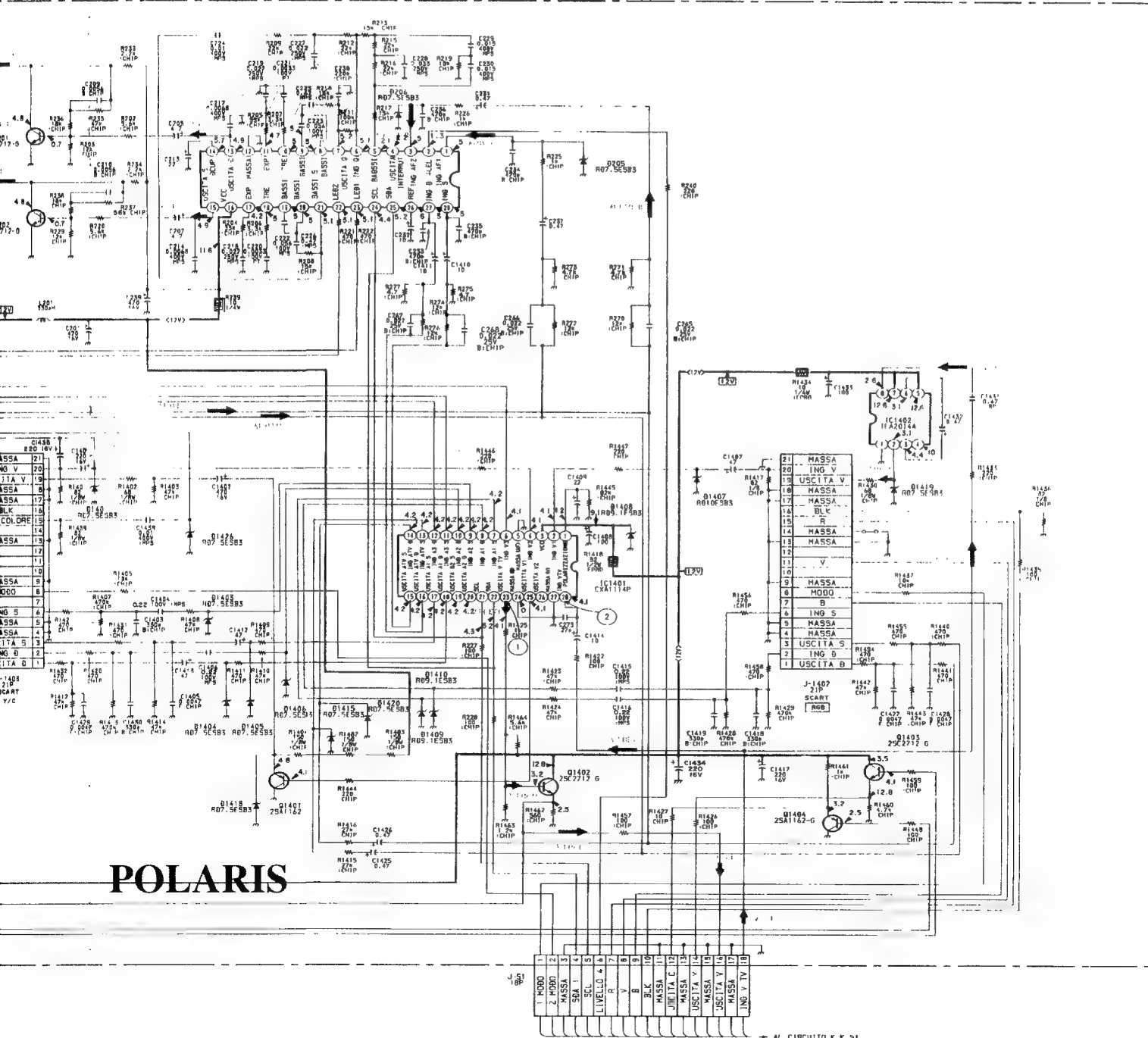
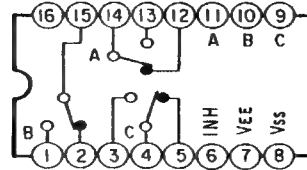




Cir. Stamp. J IC1402 TEA2014A



Cir. Stamp. J IC1403 HD14053BP

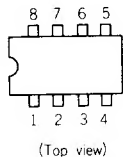


POLARIS

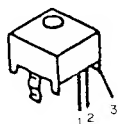
- 1. P000
- 2. P000
- 3. MASSA
- 4. SGA
- 5. SGA
- 6. SGA
- 7. SGA
- 8. SGA
- 9. SGA
- 10. SGA
- 11. SGA
- 12. SGA
- 13. SGA
- 14. SGA
- 15. SGA
- 16. SGA
- 17. SGA
- 18. SGA
- 19. SGA
- 20. SGA
- 21. SGA
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- 24. SGA
- 25. SGA
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- 89. SGA
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- 91. SGA
- 92. SGA
- 93. SGA
- 94. SGA
- 95. SGA
- 96. SGA
- 97. SGA
- 98. SGA
- 99. SGA
- 100. SGA

5-6. SEMICONDUCTORS

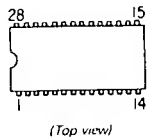
BA4558
RC4558P
SDA2546
TBA129
TEA2014A
TEA2031A
 μ PC393C



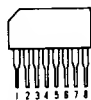
BX-1387
SBX1483-11
SBX1610-11



CXA1114P
FCB61C65L-70P
MAB8461P-W208
SAA5246P/E
TDA4580-V6
TDA4580-V7
TDA4650-V3
TDA4650-V4
TDA6200
TEA2028B



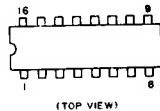
CX20061



DM-38



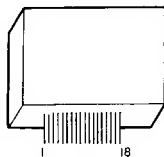
HCF4052BEY
HD14053BP
MC14053BCP
PCF8574
TC4051BPHB
TC4053BPHB
TDA2545A-V4
TDA4660
TDA8442N3
 μ PD4053BC



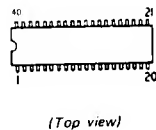
L78S05CV
NJM7812FA
RC7812FA
TDA8341/N6
UPC7812H



SBX1650-21



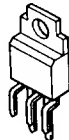
SDA20162-B002
SDA20560-A009
SDA20560-A011



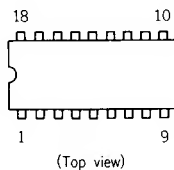
STR90120



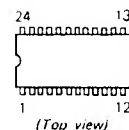
TDA2050



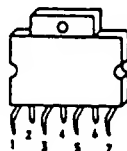
TDA2595/V9



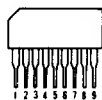
TDA6600-2



TDA8170



μ PC4570HA-1



DTA144EK
DTC114EK
DTC124EK
MMST2907A
2SA812
2SA1037K-QR
2SA1162G
2SB1295-UL6
2SC1623
2SC2412K-QR
2SC2712
2SC2712G



DTC114ES
DTC124ES
DTC144ES



JA101
JA101TP-Q
JC501
2SA733K
2SA1091-O



2SA1221-L
2SB734-34
2SC2958-L
2SD774-34



2SB772-Q
2SC2611
2SC2688-LK
2SD882-P

letter side



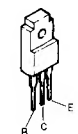
2SC2275A
2SC4159-E
2SD1408
2SD795A-P



2SC2785-HFE



2SC3298B-O



2SC4056S



2SD1761-E



2SD1941-07



2SD2096-EF



DAN202K
MA152WK
1S2837



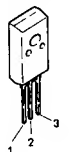
DAP202K
EGP20G
ERB12
RGP15GPKG23
RGP15J
10E-2



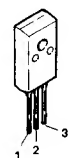
DA204K
MA152WK
1SS226



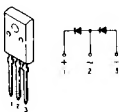
D10SC4M



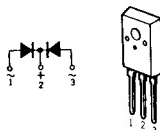
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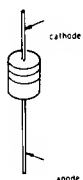
D5KD20H



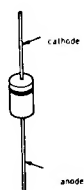
D5KD40H



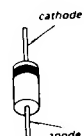
ERA81-004
ERA83-006
MA723
RD10ES-B3
RD11ES-B3
RD12ES-B2
RD20ES-B3
RD33ES-B1
RD3.0ES-B1
RD3.9ES-B1
RD4.7ES-B2
RD5.6ES-B2
RD5.6ES-B3
RD6.2ES-B2
RD6.8ES-B3
RD7.5ES-B3
RD9.1ES-B3
RD18ES-B3
WG713A
1SS119
1SS133
1SS148



ERC06-15S
RGP10GPKG23
RU-3AM
SIB01-02
S3V10SS
2GWJ42



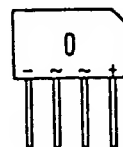
ERD29-08J



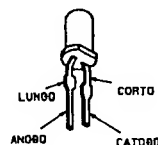
GP08DPKG23
U05G
V11N



KBU4JL-6088



LD-201VR



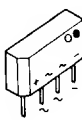
MA3036
MA3056
MA3068
RD3.6MB2
RD5.6MB2
RD6.8MB2



MC932



S1VB10
S1VB40

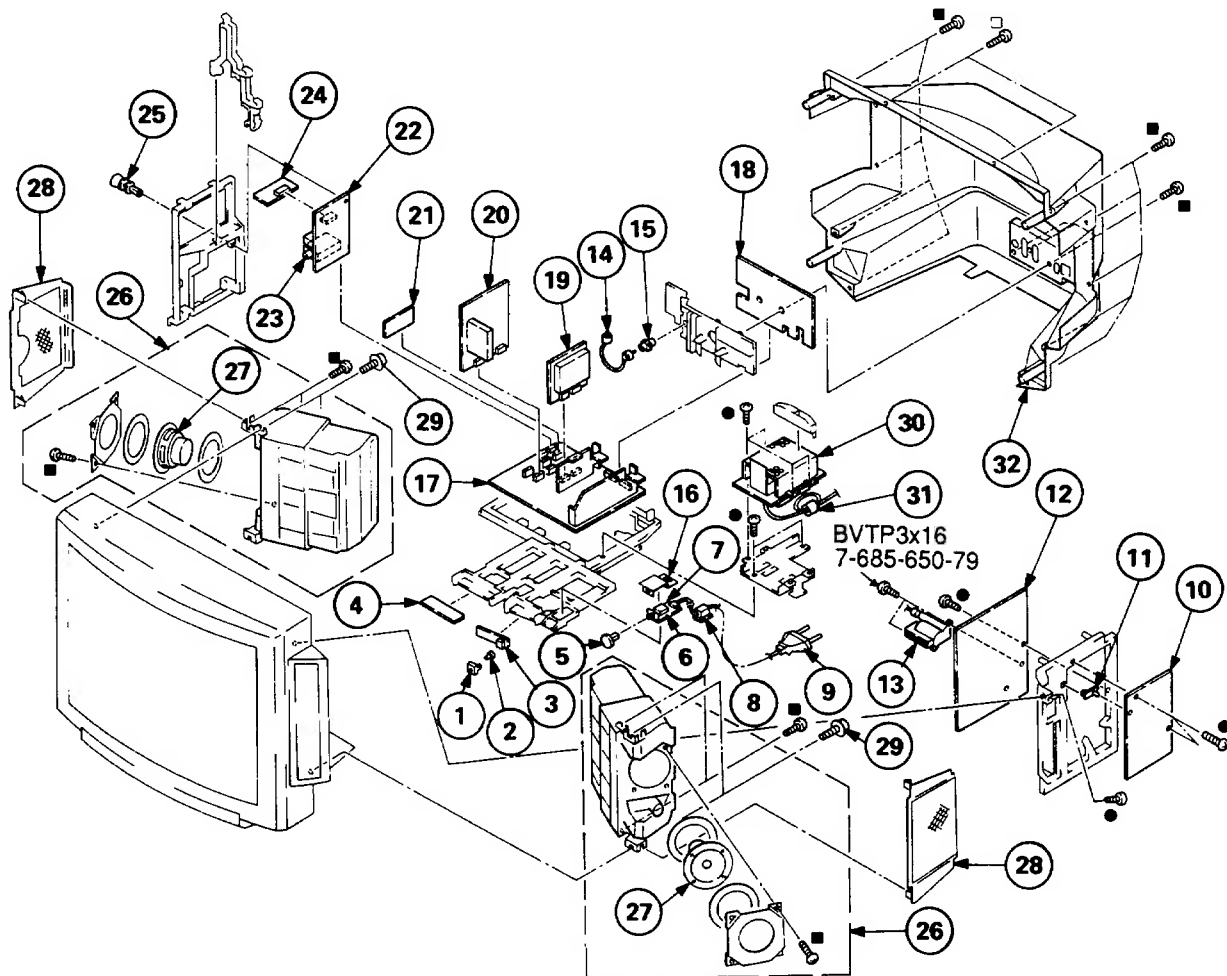


6-1. CHASSIS

● : BVTP3x12 7-685-648-79

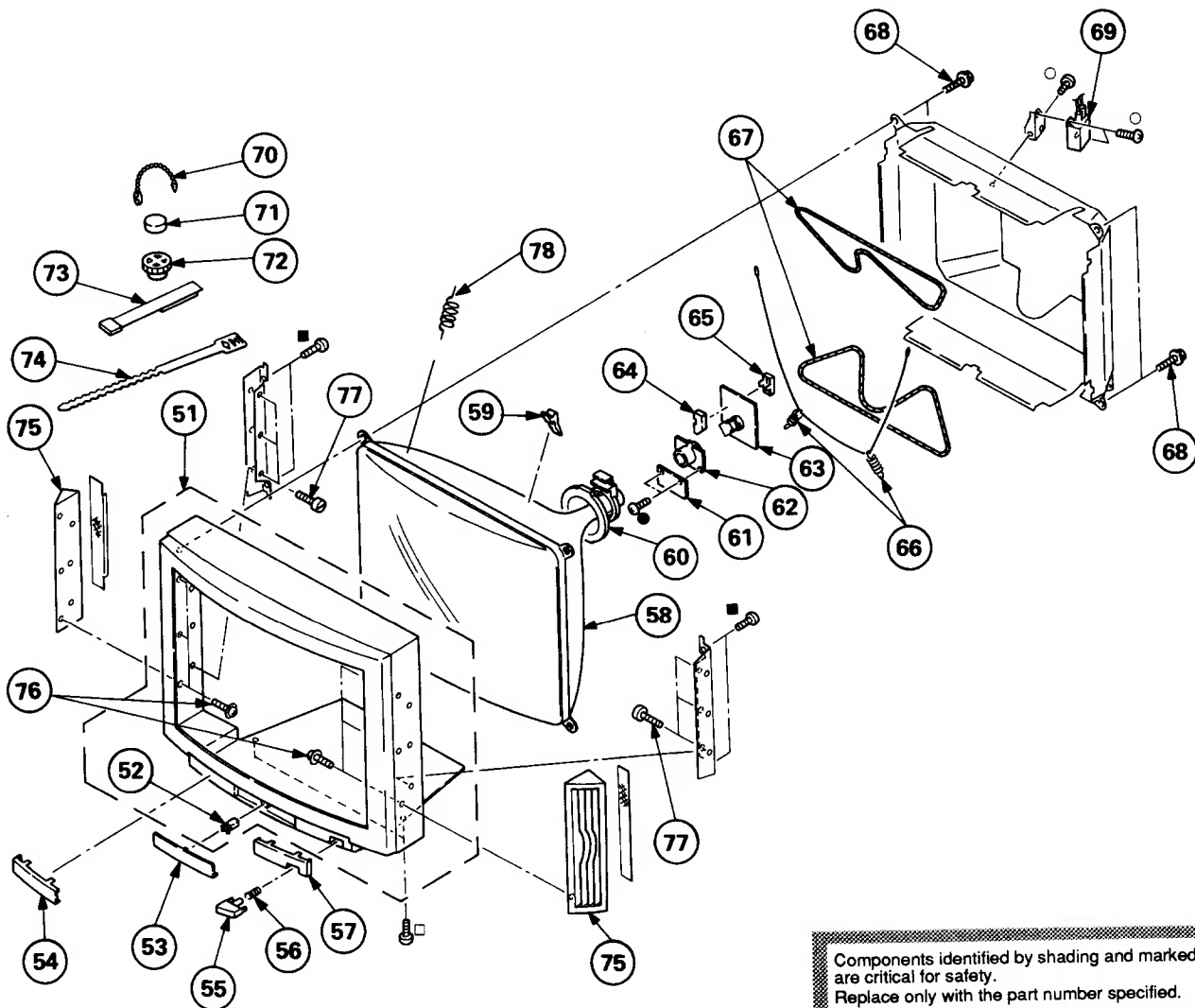
■ : BVTP4x16 7-685-663-79

□ : BVTP4x20 7-685-664-79



6-2. PICTURE TUBE

- : BVTP3x12 7-685-648-79
- : BVTP4x16 7-685-663-79
- : BVTP4x12 7-685-661-14
- : BVTP4x20 7-685-664-79



Components identified by shading and marked **▲** are critical for safety.
Replace only with the part number specified.